

FIG. 1

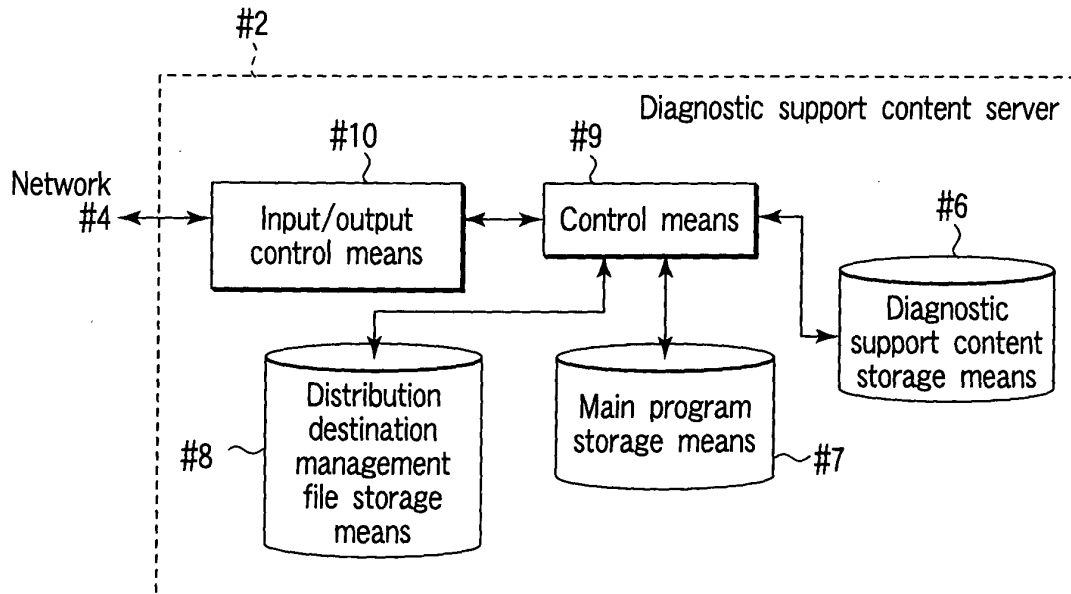


FIG. 2

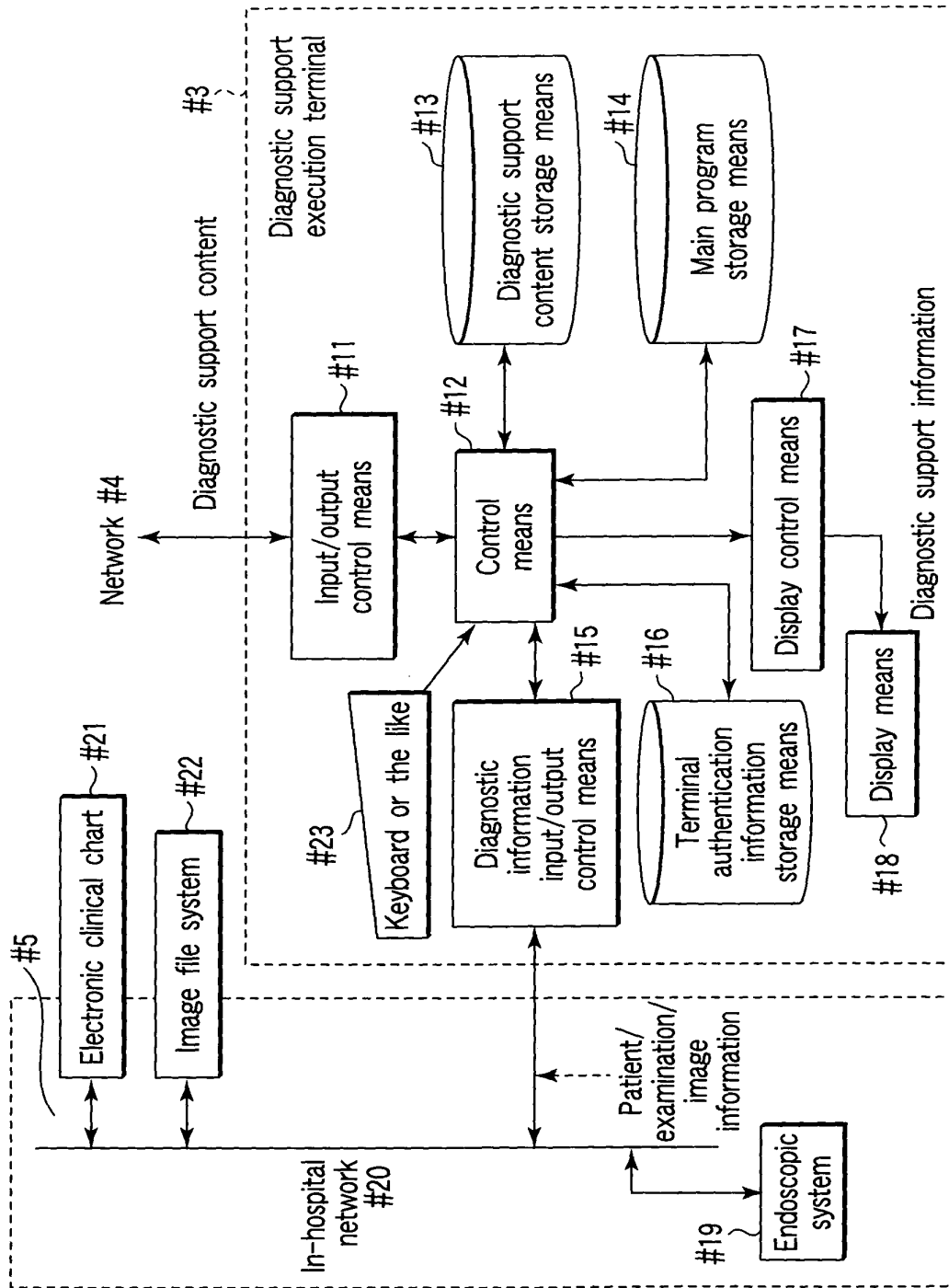


FIG. 3

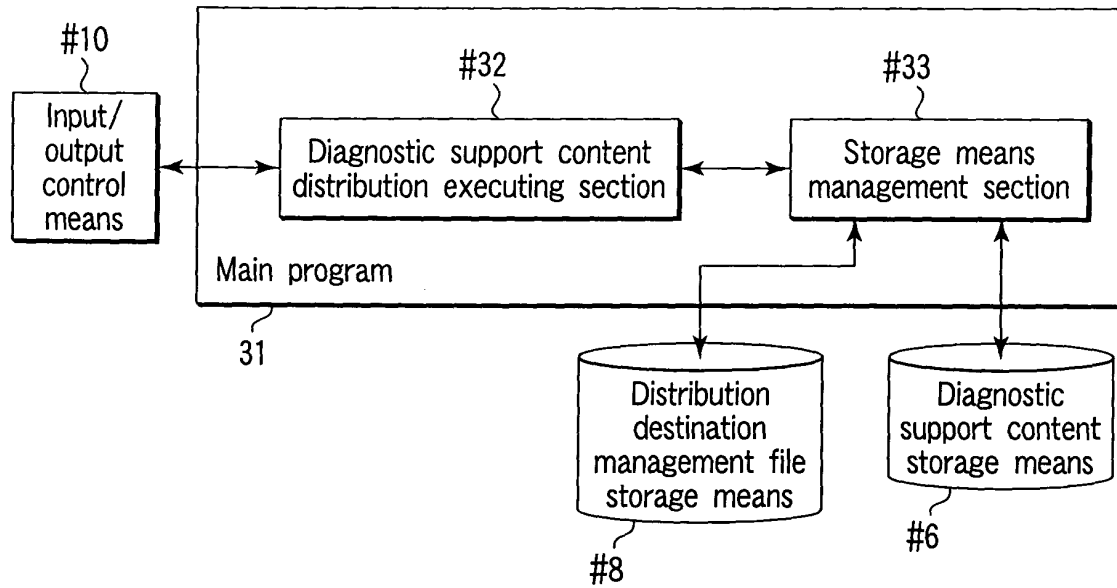


FIG. 4

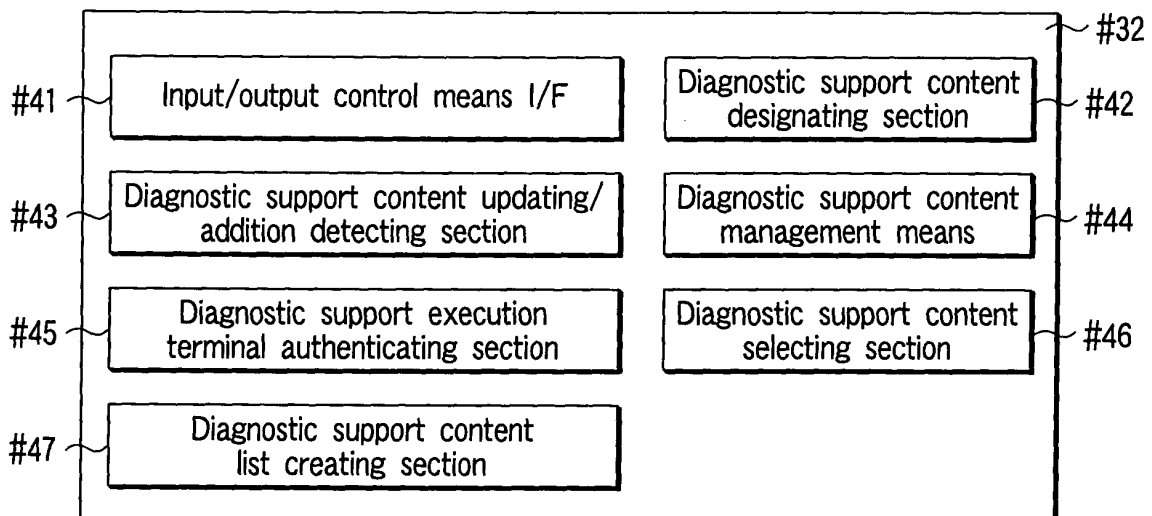


FIG. 5

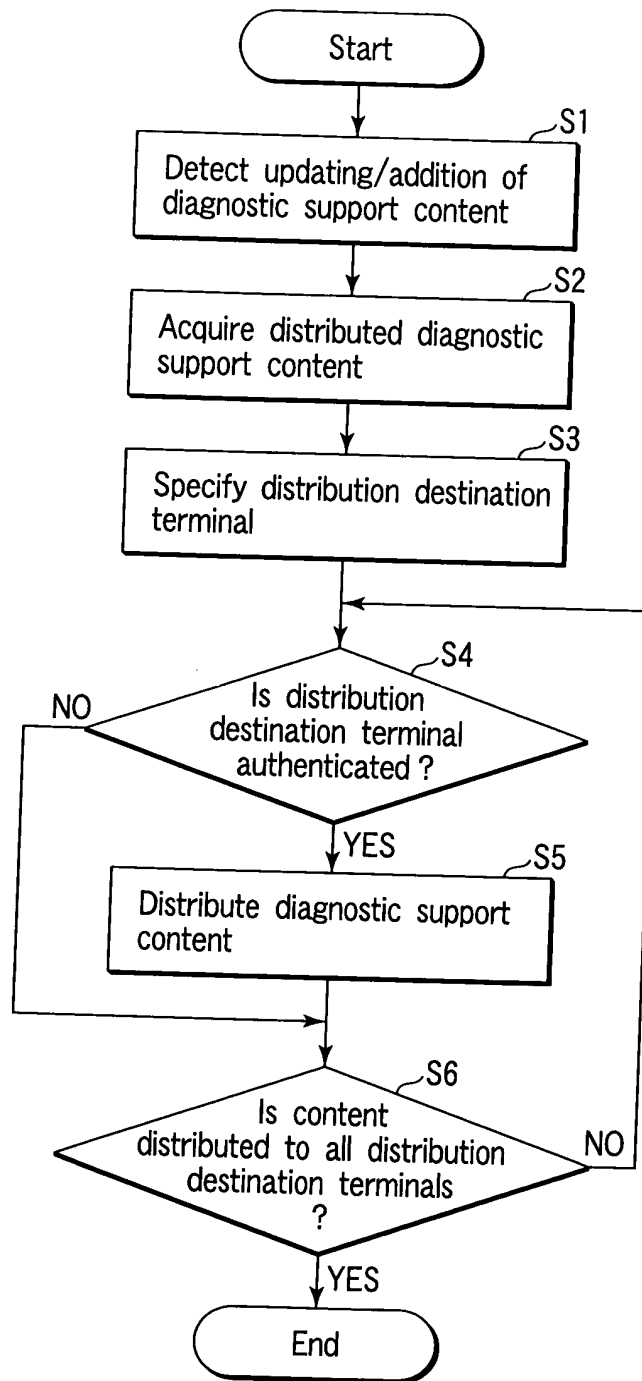


FIG. 6

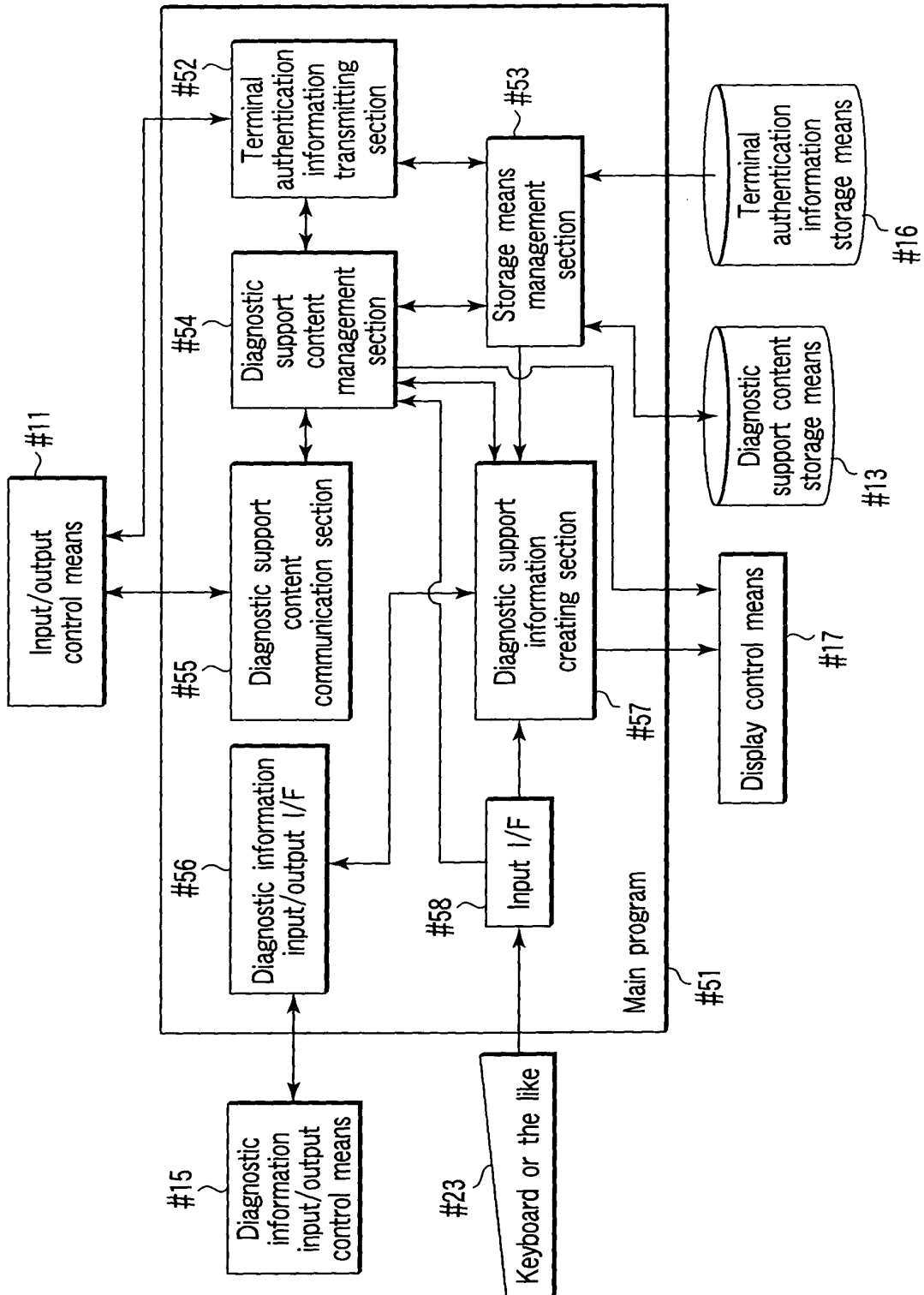


FIG. 7

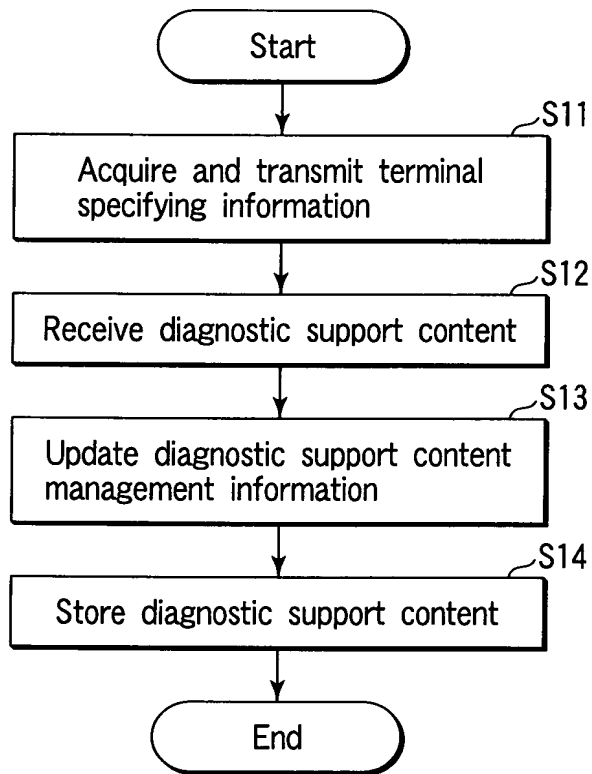


FIG. 8

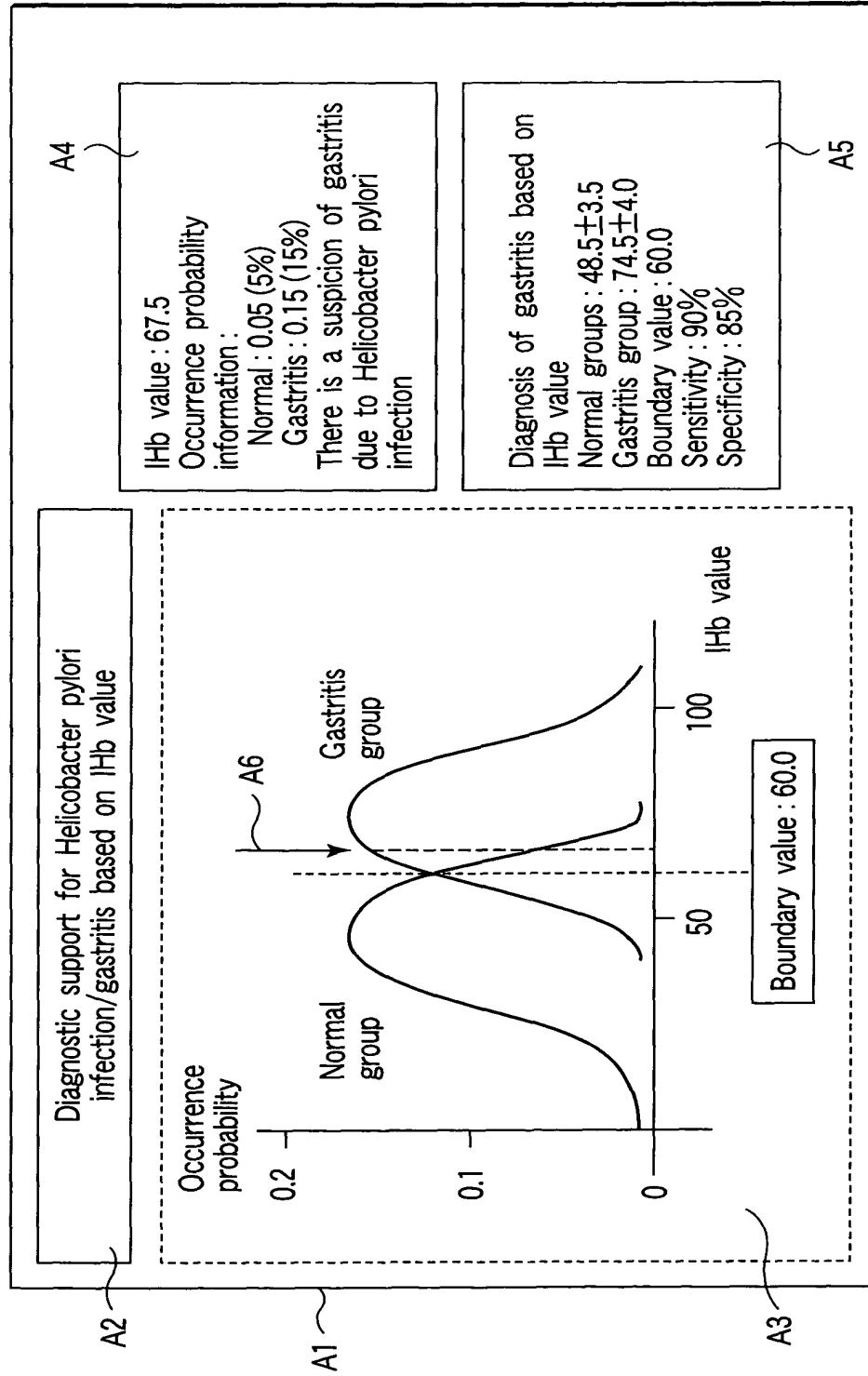


FIG. 9

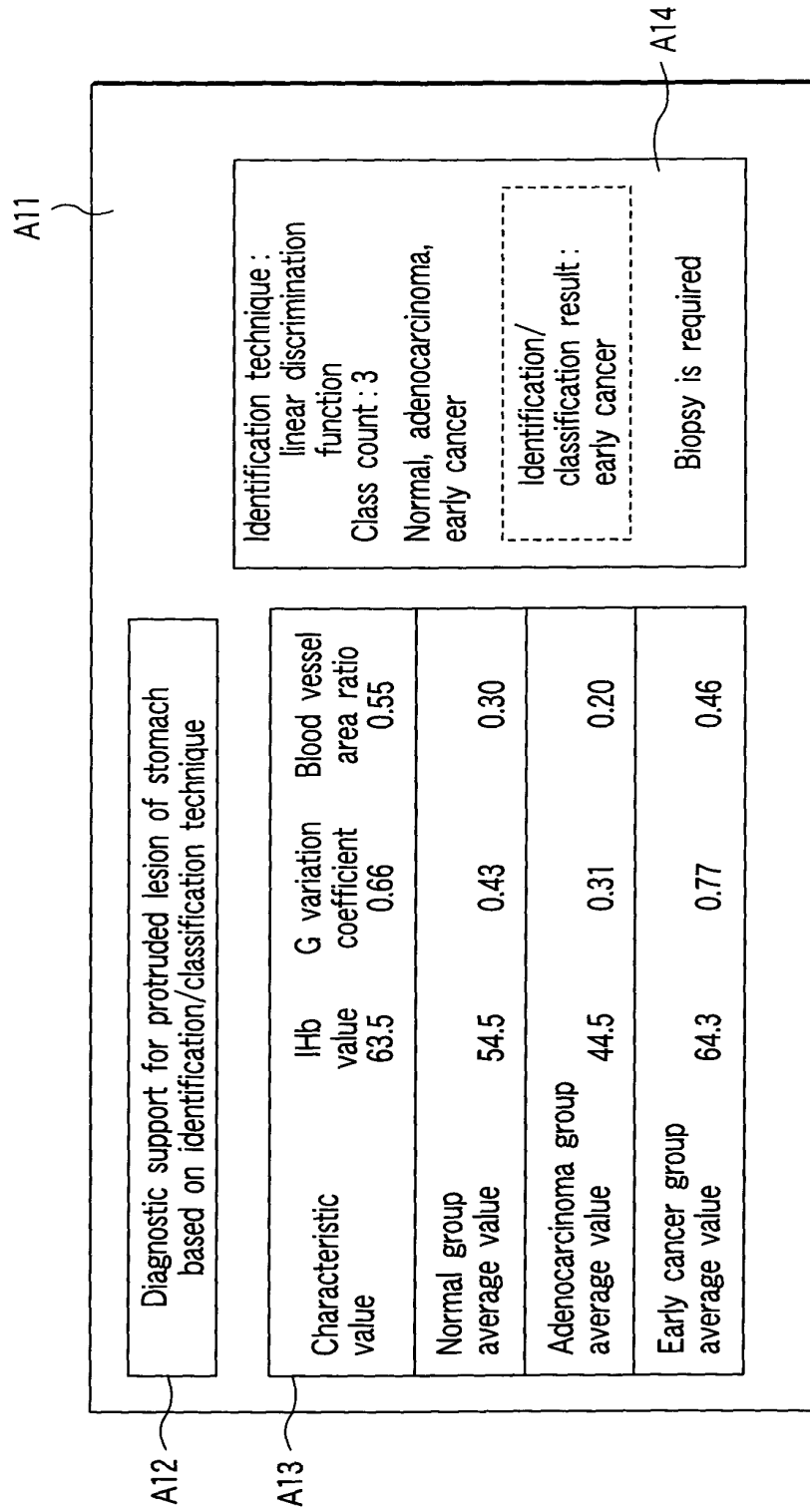


FIG. 10

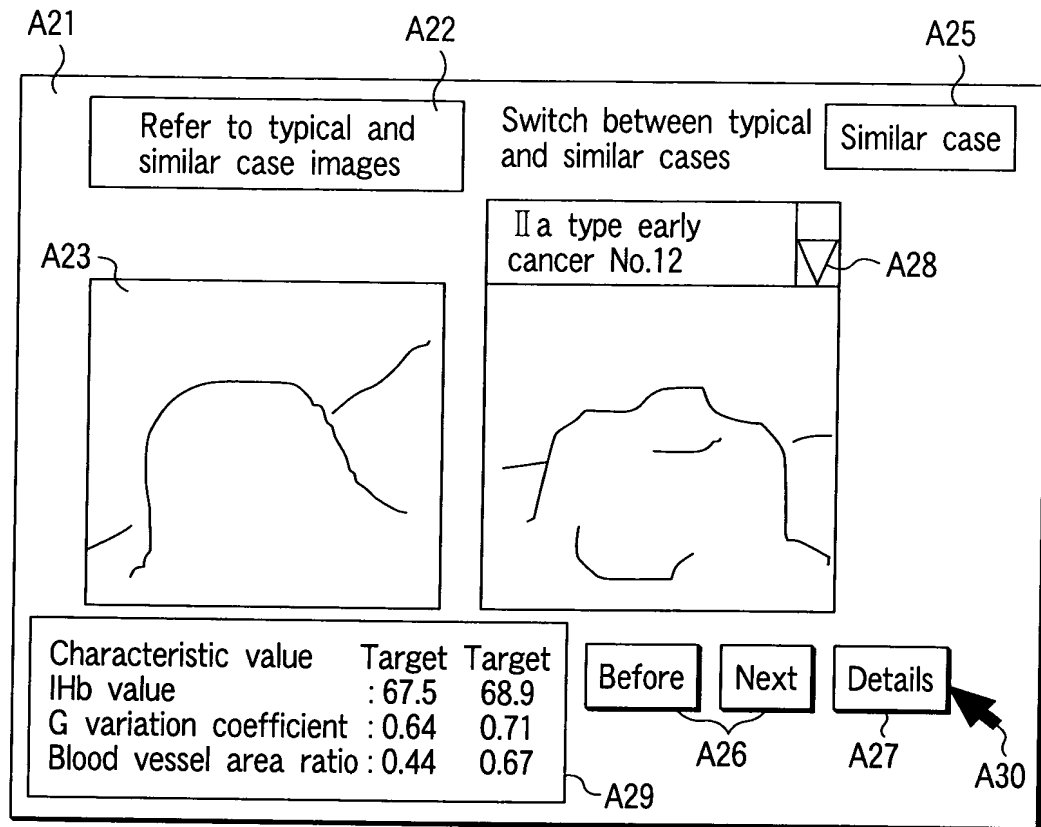


FIG. 11

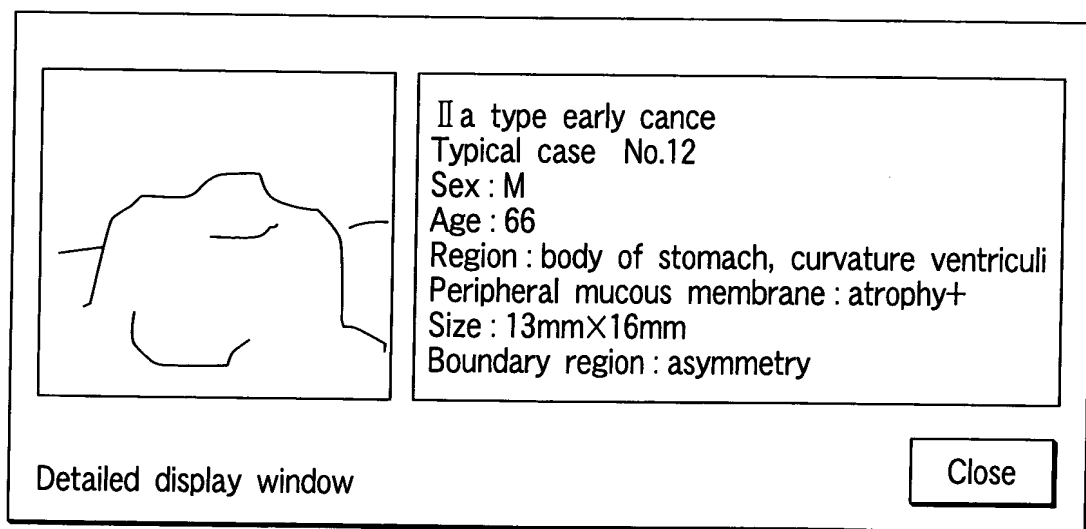


FIG. 12

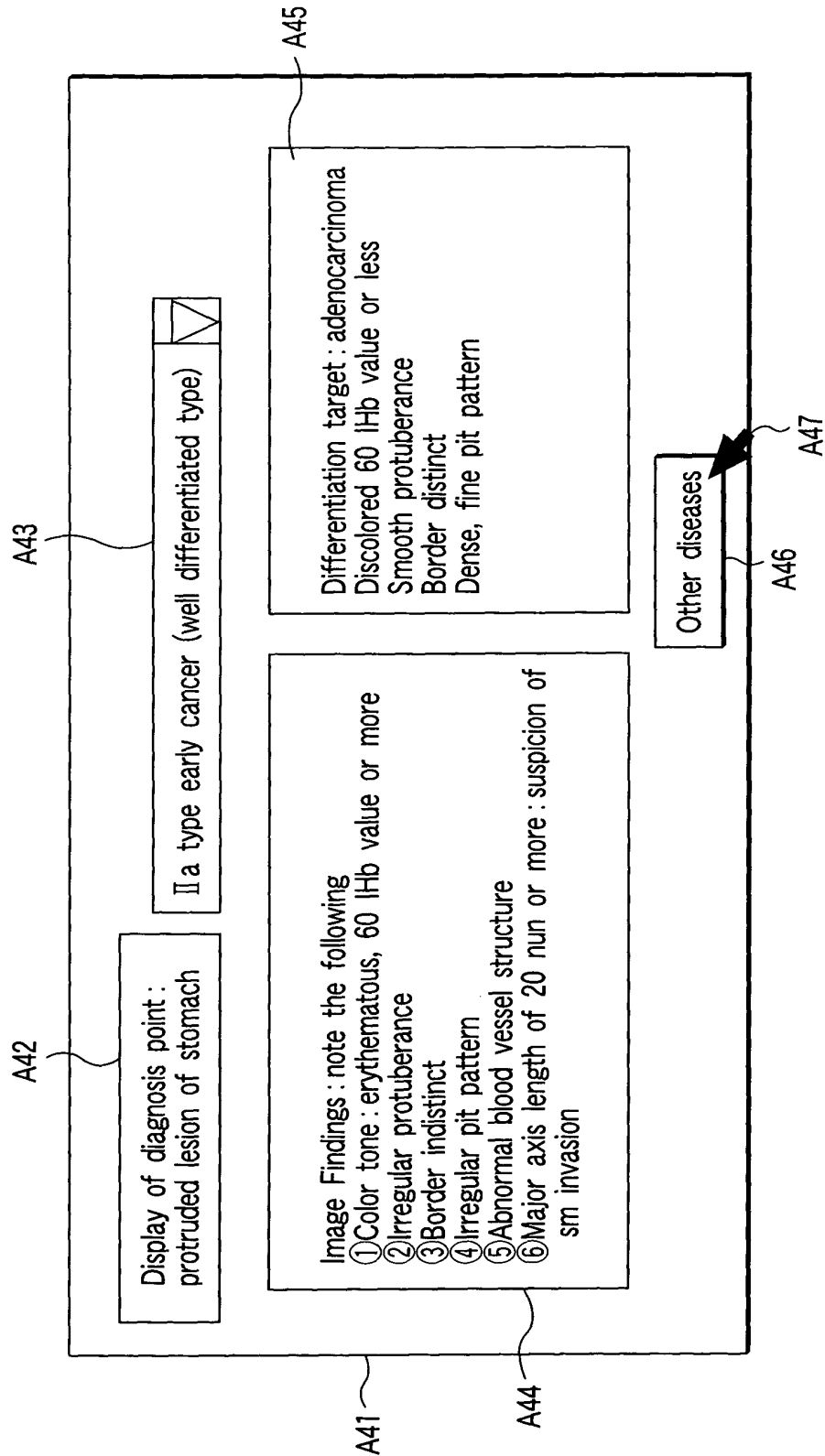


FIG. 13

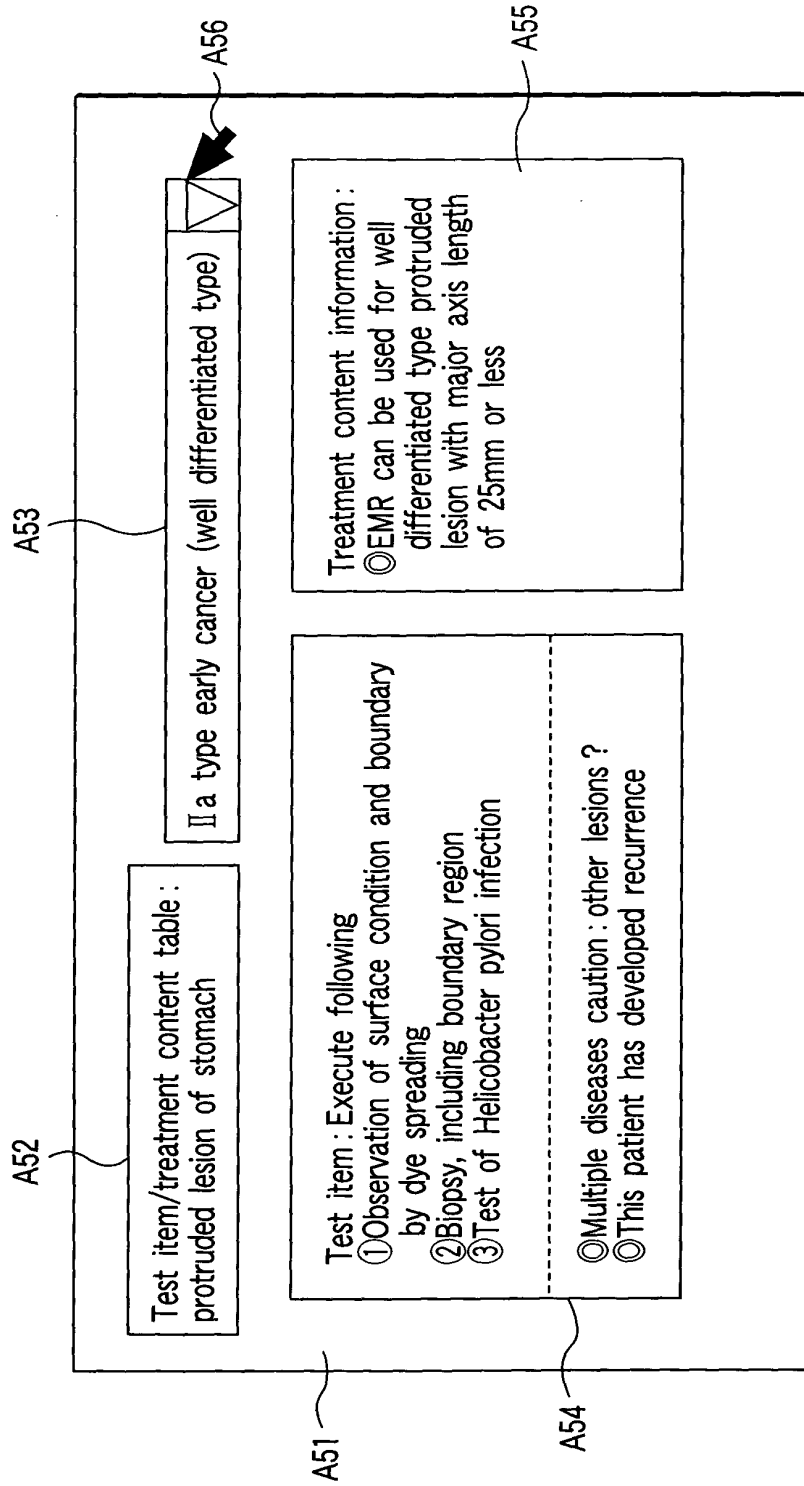


FIG. 14

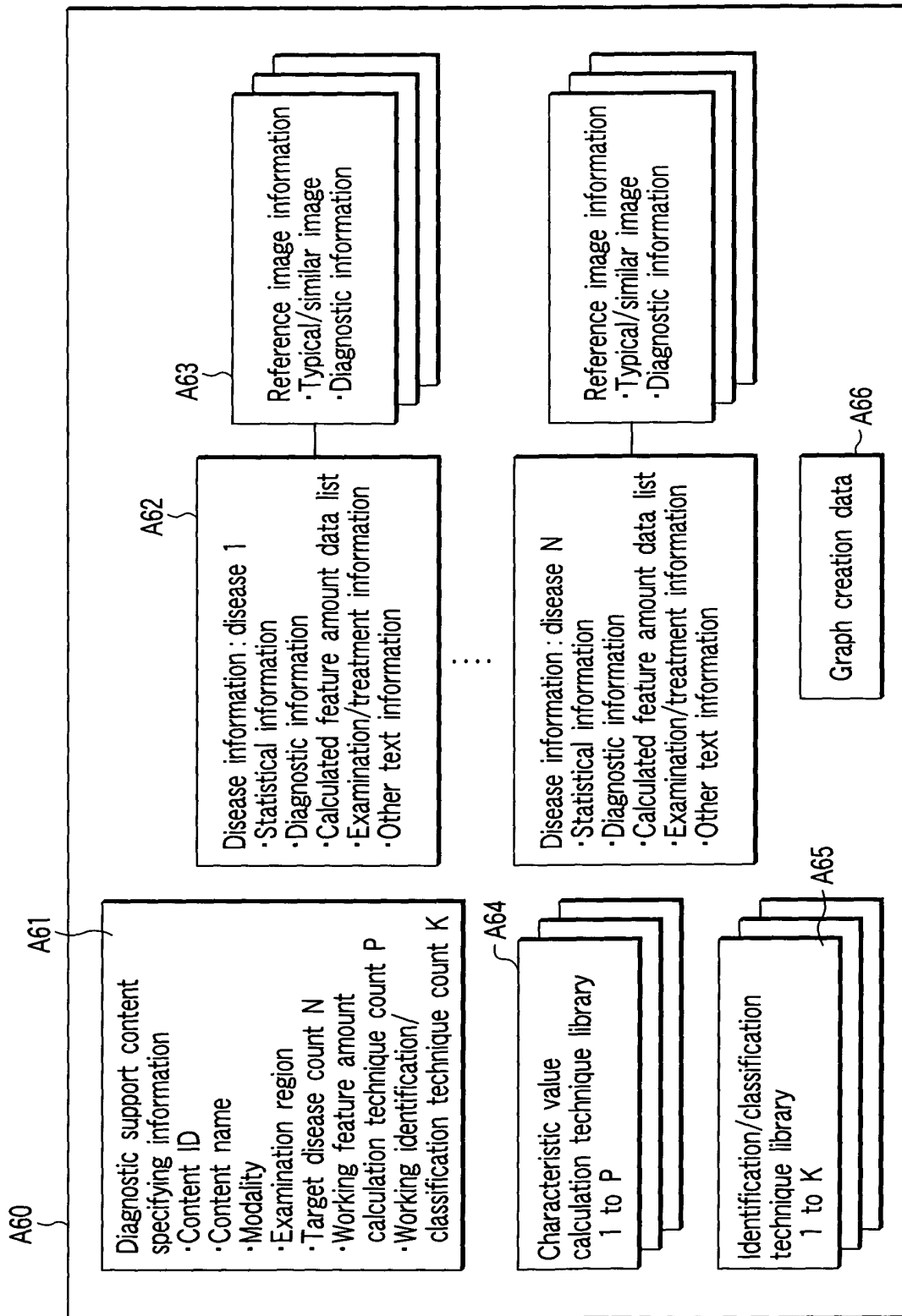


FIG. 15

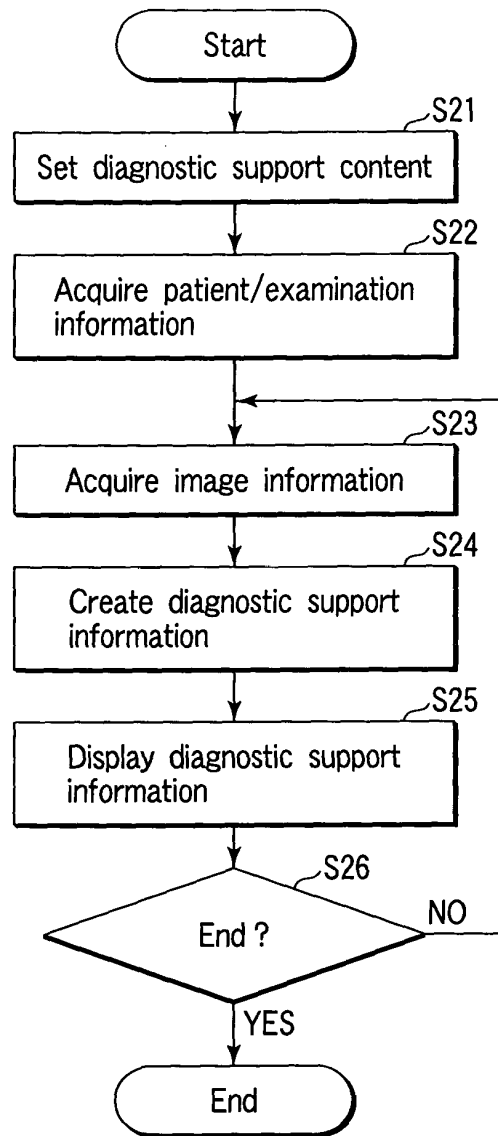


FIG. 16

Diagnostic support content update/add menu

Message : there are three types of updates/additions

ID	Type	Modality	Test region	Name	Status	Date
11	②	Endoscope	Stomach	Depressed lesion identification/classification	Update Ver.2.0	2001/3/14
14	②	Endoscope	Large intestine	Pit pattern diagnosis	Addition Ver.1.0	2001/3/15
22	④	Ultrasound	Stomach	Lymphoma test support information	Update Ver.3.5	2001/3/15

Select all

Cancel

OK

FIG.17

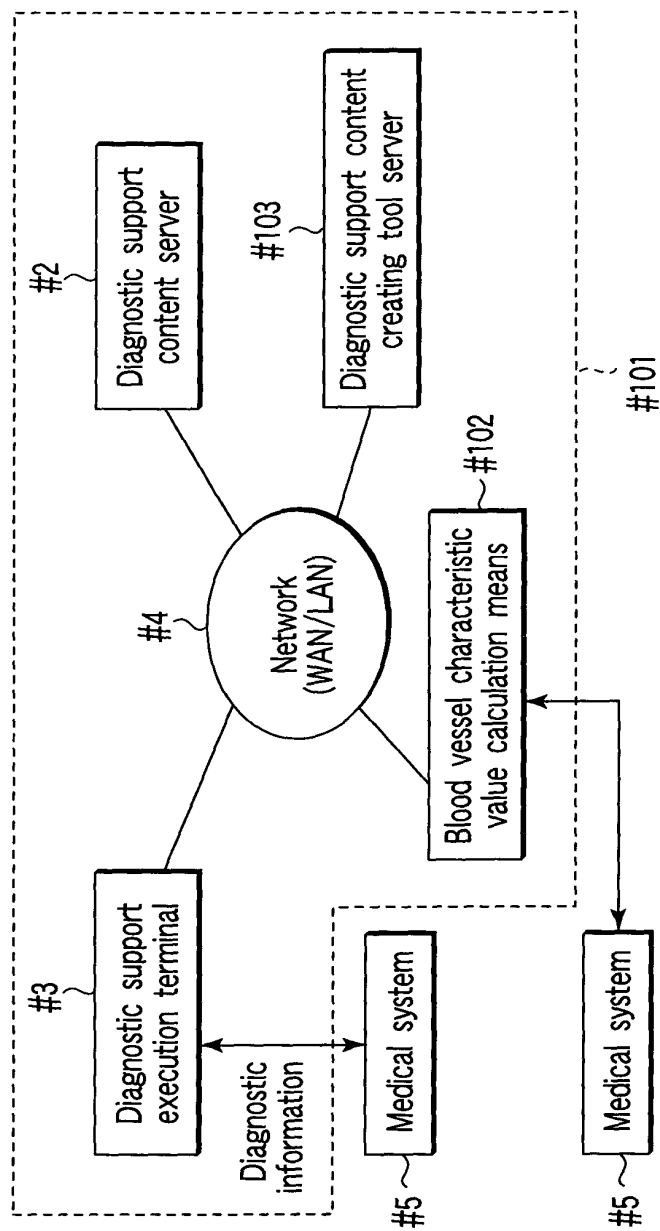


FIG. 18

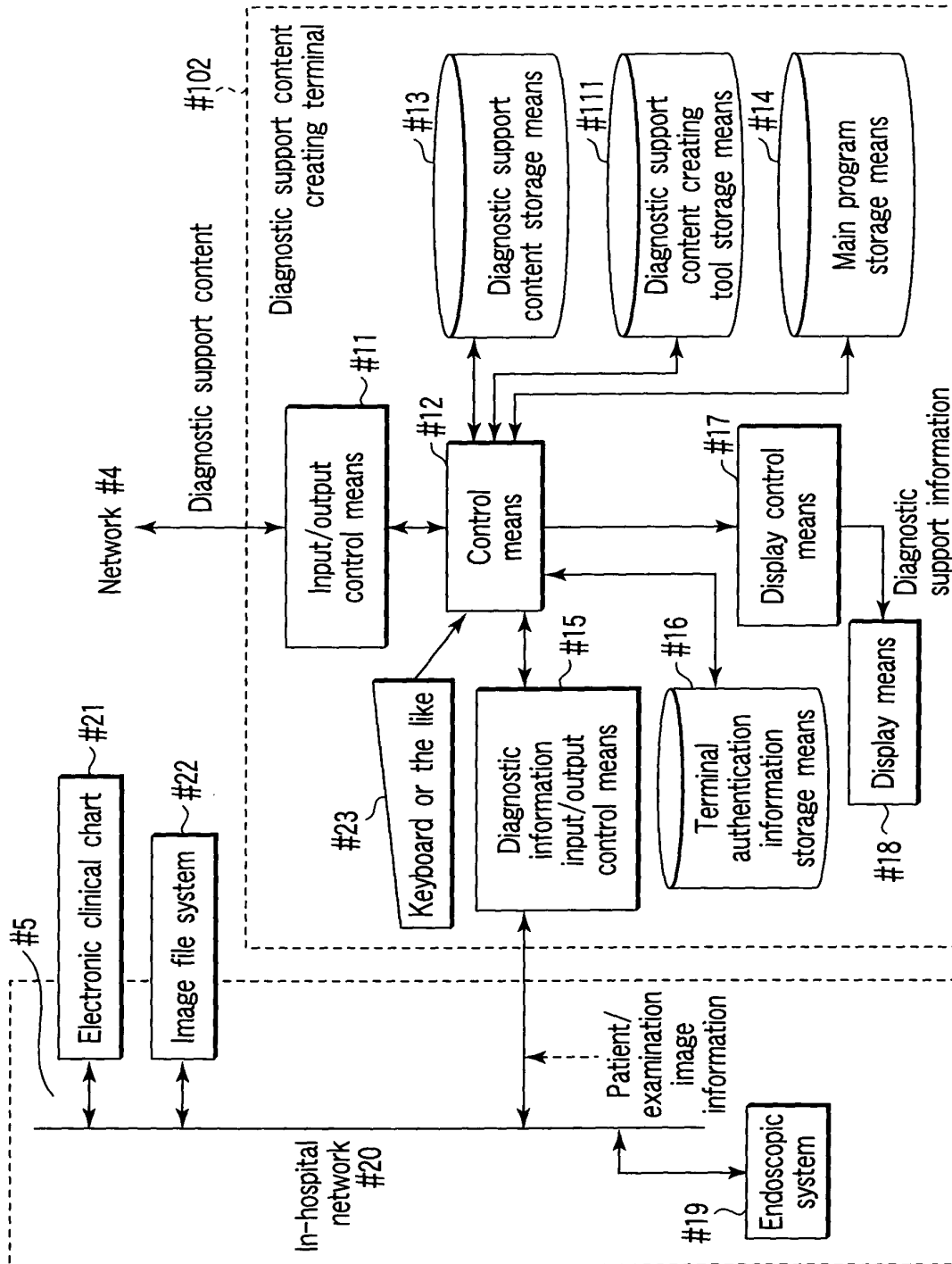


FIG. 19

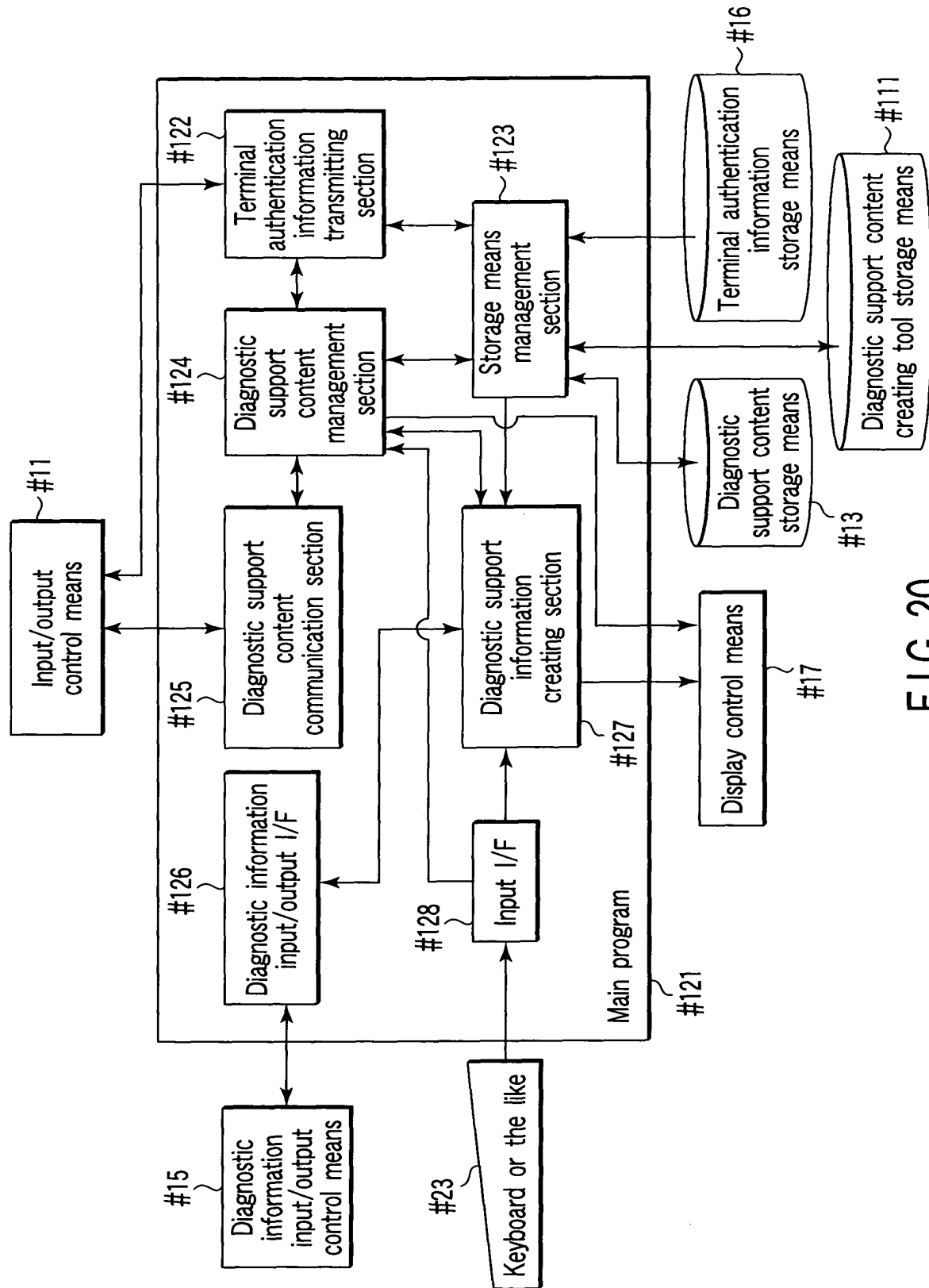


FIG. 20

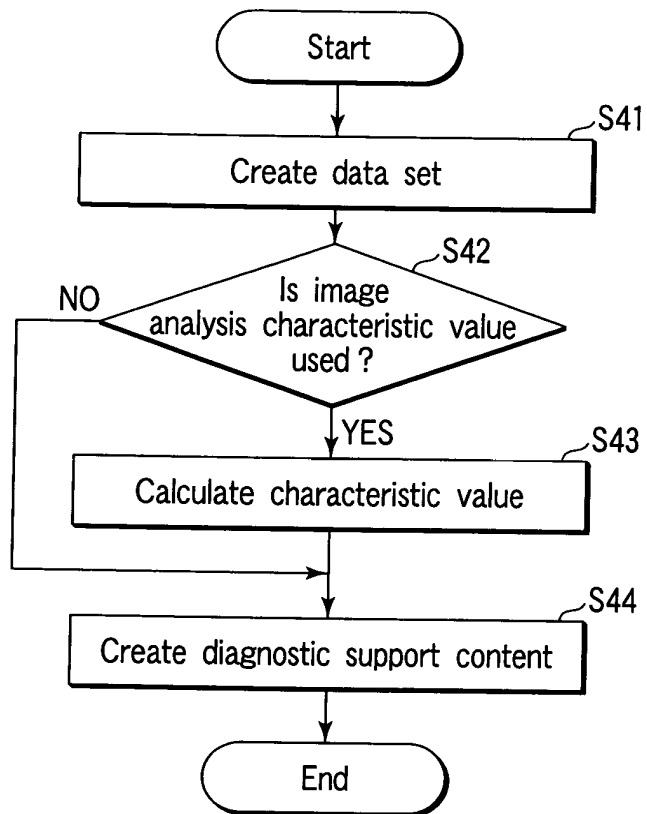




FIG. 21

Target diagnosis name selection		Data set creation		Date set name		A101	
Normal				Protruded stomach lesion differentiation 1		A102	
II a type early stomach cancer						A118	
Adenocarcinoma						A106	
Hyperplastic polyp						A116	
Characteristic value calculation technique selection		Working characteristic value calculation technique		Calculated statistical data		Statistical data selection	
IHb value						Average value/standard deviation	
Vasodilation						Occurrence probability distribution	
Gastric area morphological asymmetry degree						Median	
G variation coefficient						Boundary value	
Identification/classification technique selection		Working identification/classification technique		Created graph		Graph selection	
Linear discrimination function						Histogram	
Second-order discrimination function						One-dimensional scatter diagram	
k-NN classifier						Two-dimensional scatter diagram	
Neural network classifier						Occurrence probability distribution map	
				Set examination condition		A107 A111	
				Input text information		Call existing content	
				Set reference image		Confirm	
						A112	
						A117	

FIG. 22

Examination condition setting


Modality	Endoscope	
Examination region	Stomach	

Cancel OK

A120

FIG. 23

Text information input

II a type early stomach cancer 

Important findings	Erythematous and surface roughness are recognized. Differentiation from adenocarcinoma is important. Check pit pattern with magnifying endoscope.
Treatment instruction	Use EMR for size of 20mm or less. Adaptive dilation up to 30mm is reported. Check it by biopsy.

Input other information Cancel OK

A125

FIG. 24

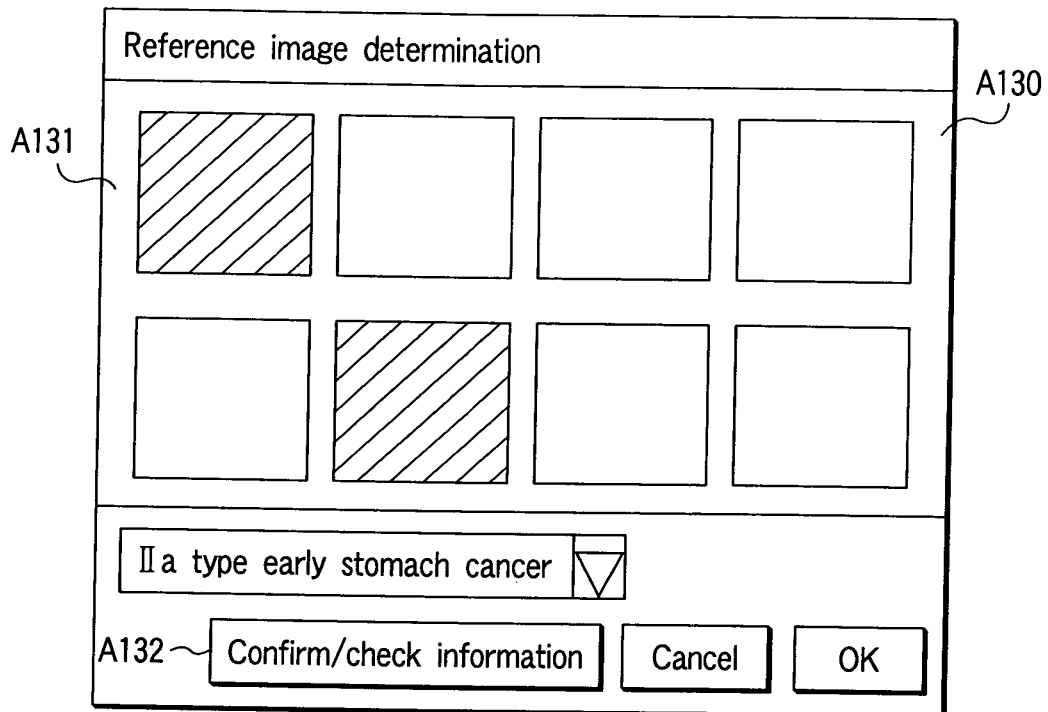


FIG. 25

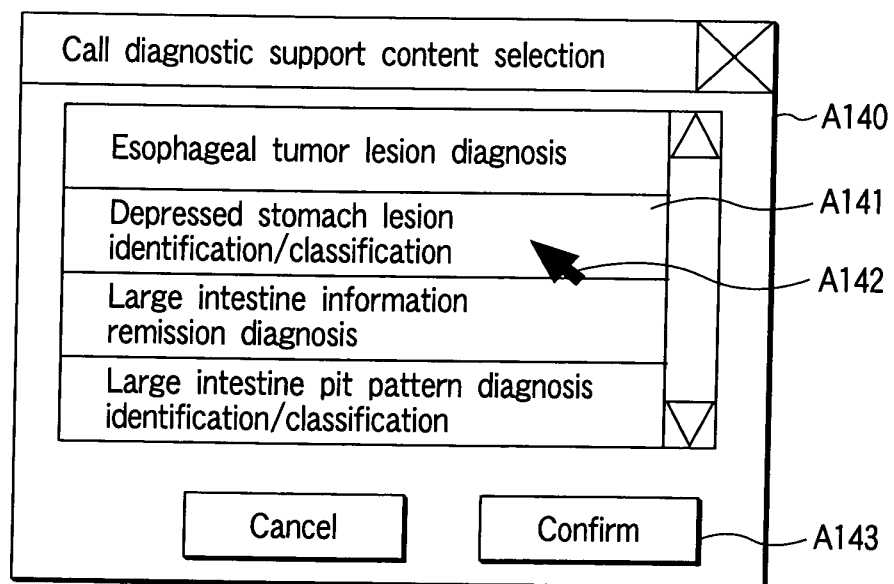


FIG. 26

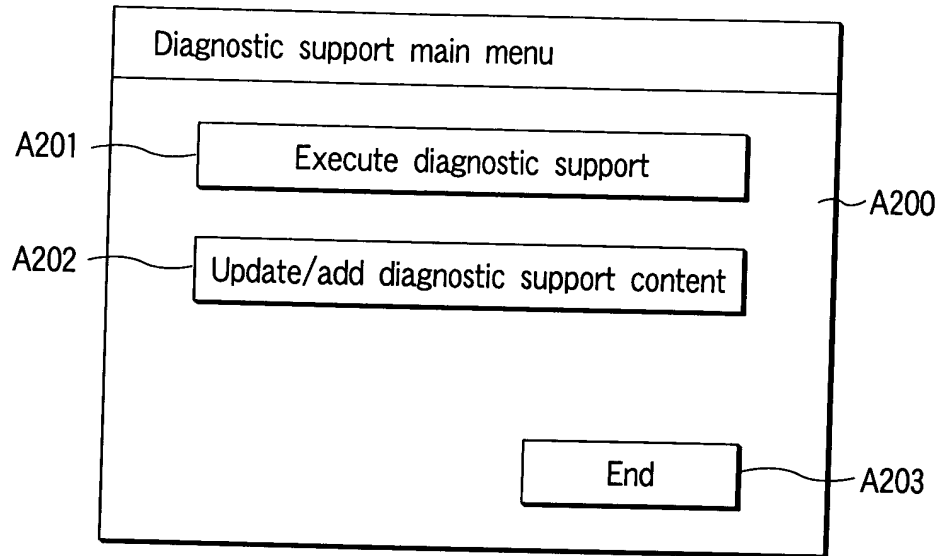


FIG. 27

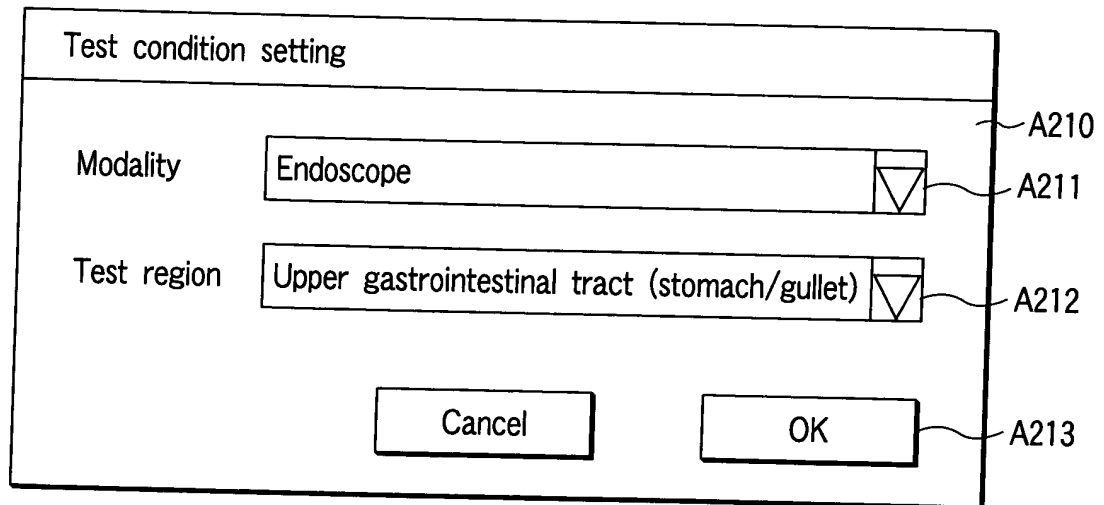


FIG. 28

Diagnostic support content setting

Select diagnostic support content

Modality : endoscope
Examination region : Upper gastrointestinal tract (stomach/ gullet)

<input checked="" type="checkbox"/>	Helicobacter pylori infection/gastritis diagnosis	A221
<input checked="" type="checkbox"/>	Depressed lesion identification/classification	
<input checked="" type="checkbox"/>	Protruded lesion identification/classification	
<input type="checkbox"/>	Similar/typical case reference	

A222

Cancel Start test A223

FIG. 29

Terminal authentication information setting

Facility name Prefectural university hospital A230

Terminal name First internal medicine endoscope A231

ID 111806 A232

Password ***** A233

Cancel OK A234

A235

FIG. 30

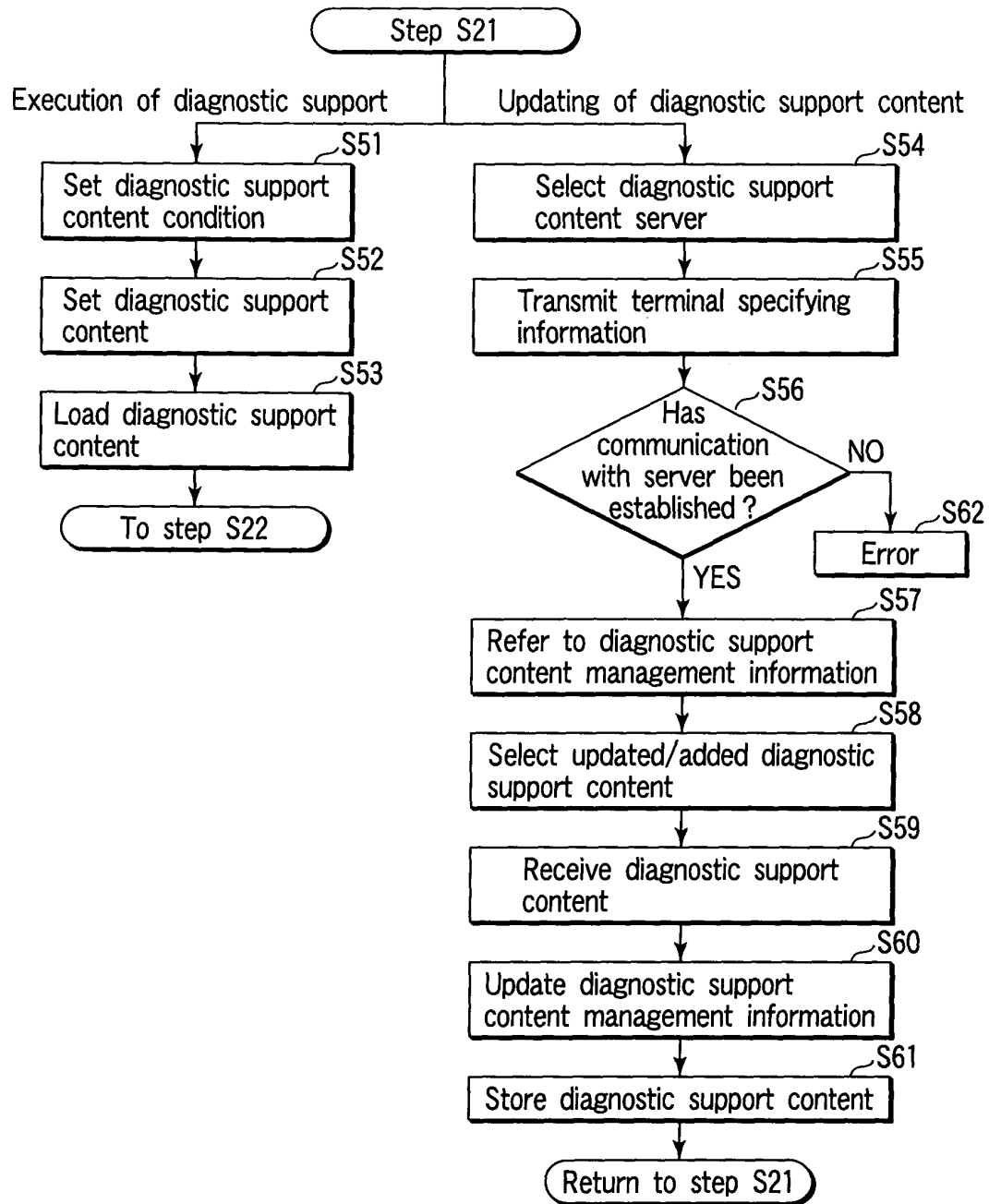


FIG. 31

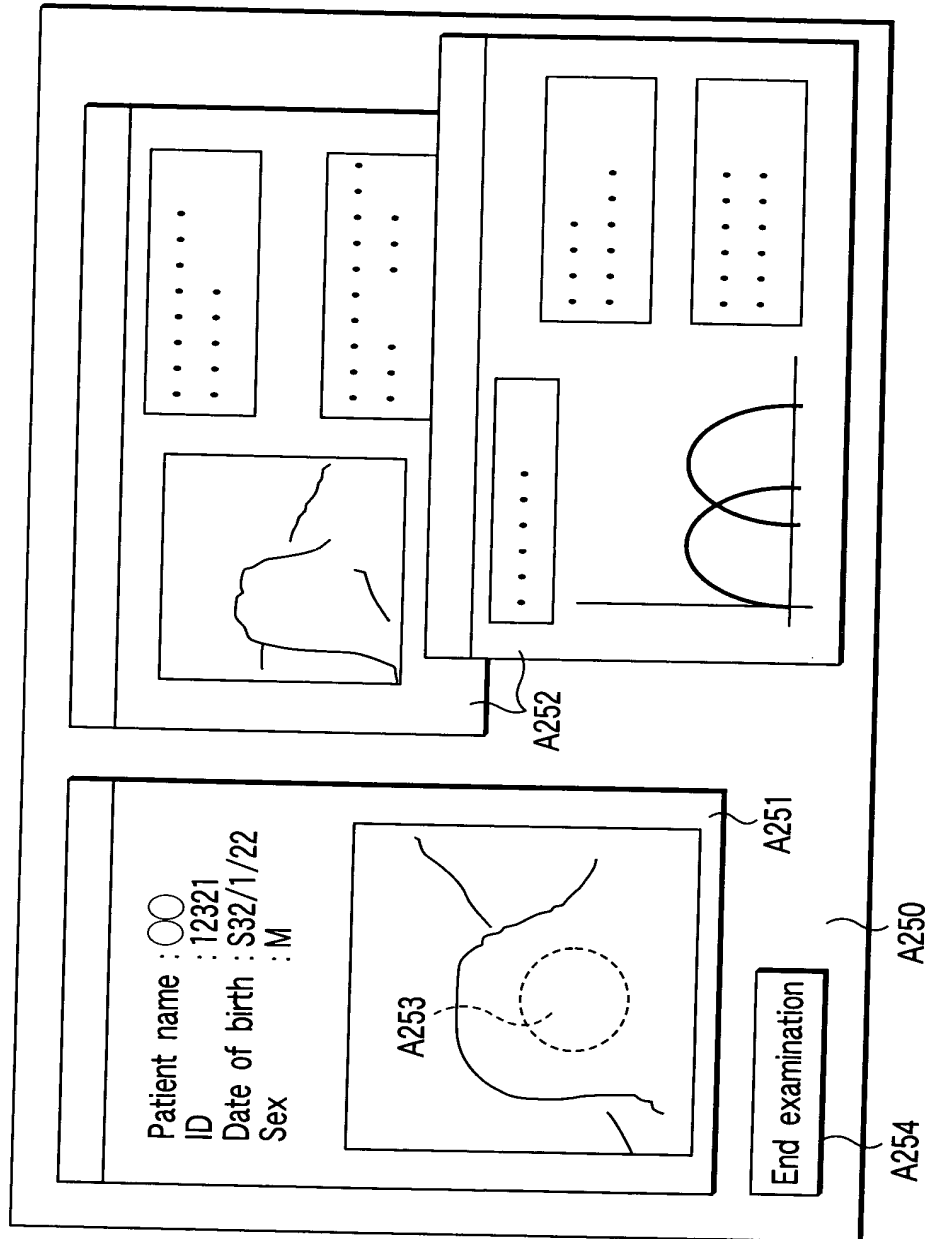


FIG. 32

Diagnostic support content server selection

Select diagnostic support content server A260

Modality A261

Examination region A262

✓	Server 1	A263
✓	Server 2	
✓	Server 3	
	Server 4	

A264

CancelOK A265

FIG. 33

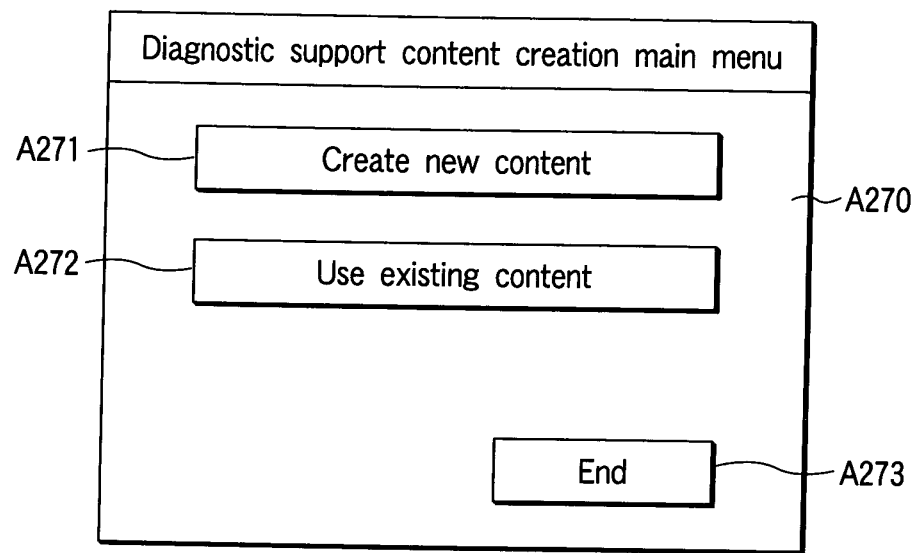


FIG. 34

Diagnostic support content update/add menu

Message : there are three types of updates/additions

ID	Type	Modality	Examination region	Name	Status	Date	Creator
11	②	Endoscope	Stomach	Depressed lesion identification/classification	Update Ver.2.0	2001/3/14	First hospital
14	②	Endoscope	Large intestine	Pit pattern diagnosis	Addition Ver.1.0	2001/3/15	Medical college internal medicine
22	④	Ultrasound	Stomach	Lymphoma test support information	Update Ver.3.5	2001/3/15	ABC medical center

Select all

Cancel OK

A281

A280

FIG. 35

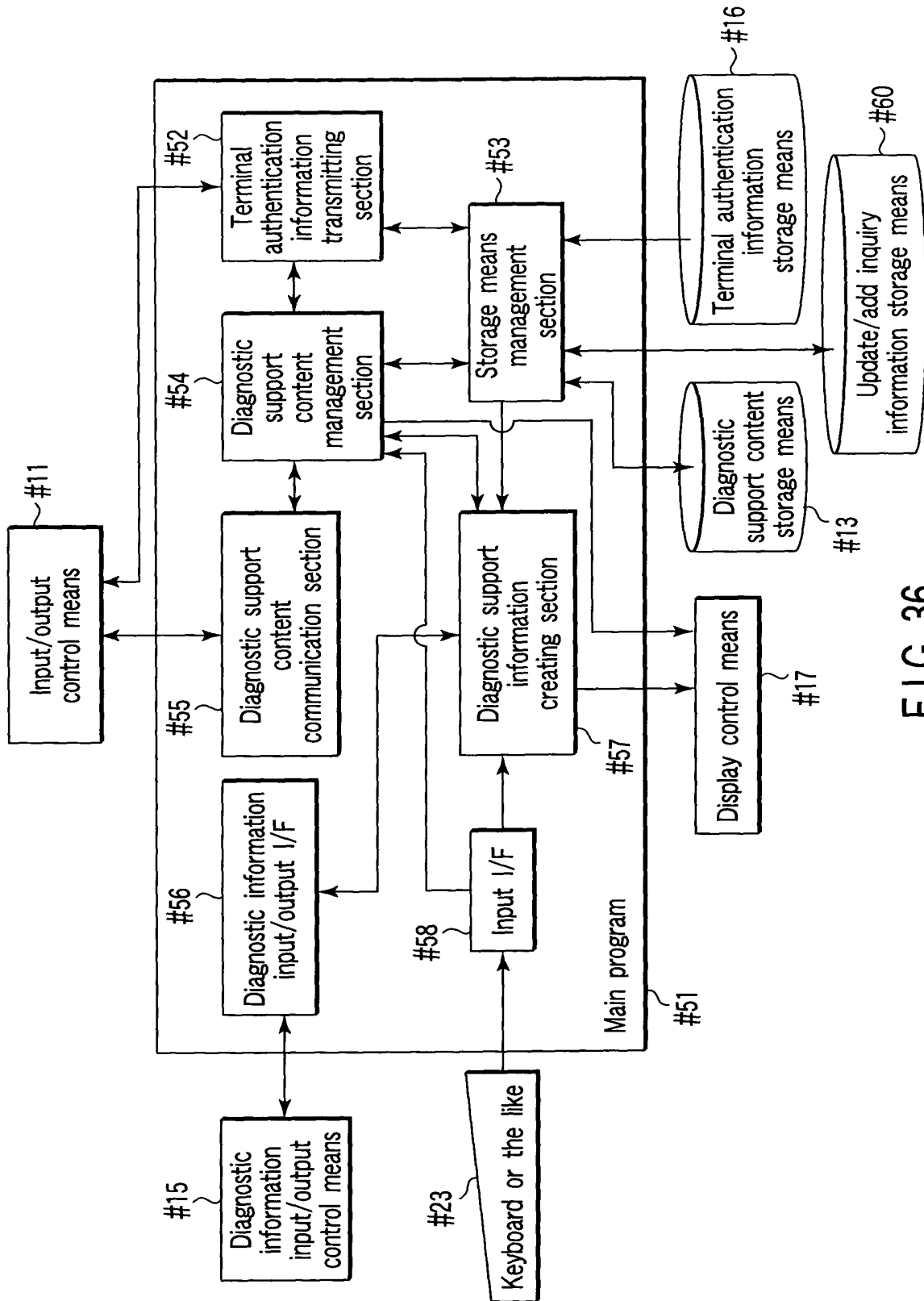


FIG. 36

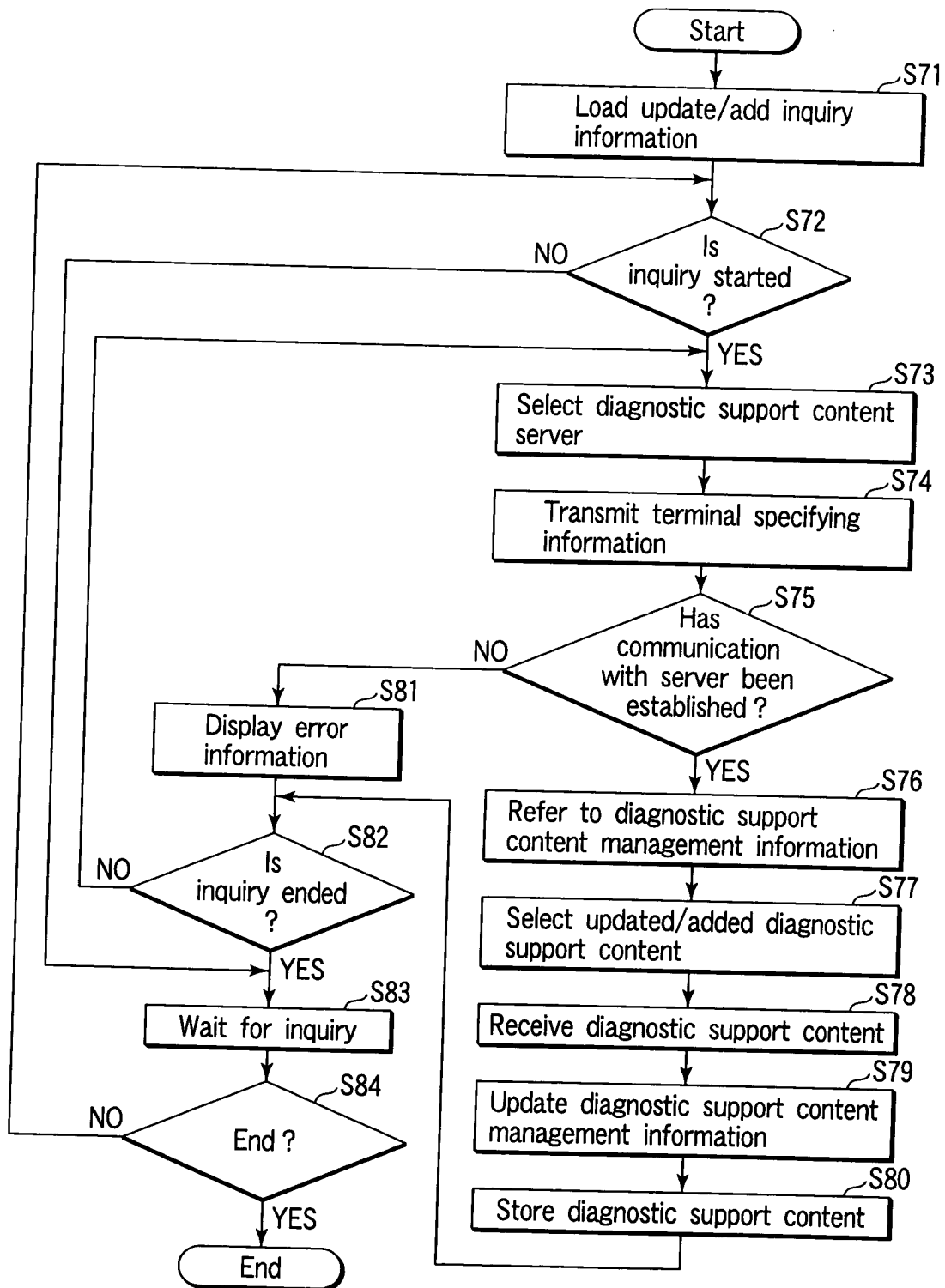


FIG. 37

Inquiry timing : startup, end of examination, two-hour intervals, 15:00		A291
Diagnostic support content server ID	Diagnostic support content ID	A290
001A	12345	
001A	23456	
002B	ALL	
003C	22422	
003C	33333	

A292

FIG. 38

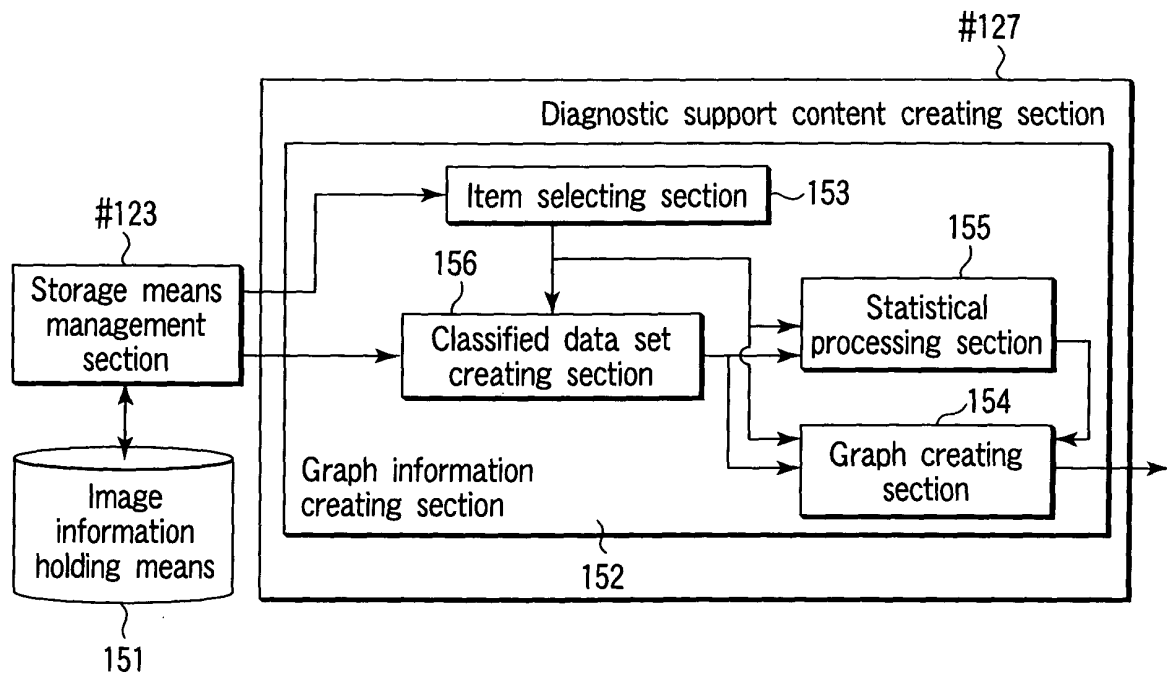


FIG. 39

Image information	Item management information
•Image data	•Item name information of item classified to classification key item
•Region-of-interest data	•Item name information of item classified to numerical value item
•Accompanying data	•Item value information of category classification (Category A, category B,...)
•Image ID	•Item value information of diagnosis name (Normal, cancer,...)
•Patient ID	•Item value information of examination region (Stomach, gullet, large intestine,...)
•Patient name	•Item value information of patient sex (Male, female)
•Examination date	•Item name information of arbitrary set character string items 1 to Q
•Classification key item	(Color tone, mucous membrane pattern,...)
○Category classification	•Item value information of arbitrary set character string items 1 to Q
○Graph display attribute	Color tone (rubefaction, discoloration,...)
○Diagnosis name	Mucous membrane pattern (present, absent)
○Examination region	...
○Patient sex	•Item name information of arbitrary set numerical value items 1 to R
○Arbitrary set character string items 1 to Q	(Red blood cell count, test date intervals,...)
•Numerical value item	
○Characteristic value information 1 to P (characteristic values, calculation parameters)	
○Patient age	
○Arbitrary set numerical value items 1 to R	

FIG. 40A

Auxiliary information
•Graph type information
•Statistical amount type information
•Statistical examination type information

FIG. 40C

FIG. 40B

Graph creation

<p>Graph type</p> <p>157</p> <ul style="list-style-type: none"> Histogram One-dimensional scatter diagram Two-dimensional scatter diagram Average value bar graph Case count bar graph 	<p>Data value 1</p> <p>160</p> <ul style="list-style-type: none"> Patient age Characteristic value 1 Characteristic value 2 Characteristic value 3 Characteristic value 4 	<p>Classified data set</p> <p>162</p> <ul style="list-style-type: none"> Adenocarcinoma/male Adenocarcinoma/female Stomach cancer/male Stomach cancer/female Polyp/male Polyp/female Ulcer/male Ulcer/female Lymphoma/male Lymphoma/female Erosion/male Erosion/female
<p>Classification item</p> <p>158</p> <ul style="list-style-type: none"> Category classification Diagnosis name Test region Patient sex Findings 	<p>Data value 2</p> <p>161</p> <ul style="list-style-type: none"> Patient age Characteristic value 1 Characteristic value 2 Characteristic value 3 Characteristic value 4 	
<p>Information to be superimposed</p> <p>159</p> <ul style="list-style-type: none"> Average value Standard deviation Standard error Intermediate value Mode value t test χ^2 test 		

Execute Cancel

163 164

FIG. 41

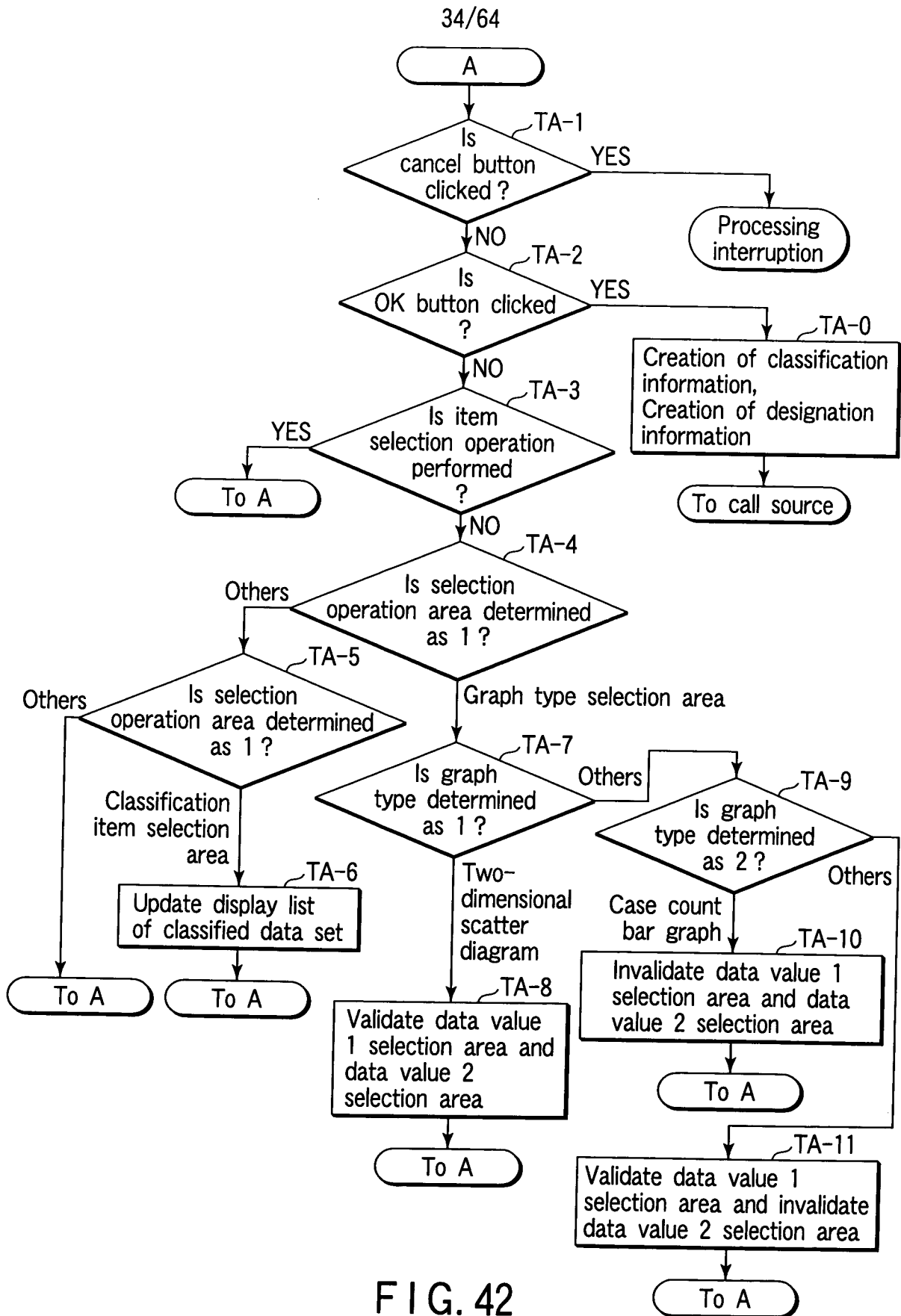


FIG. 42

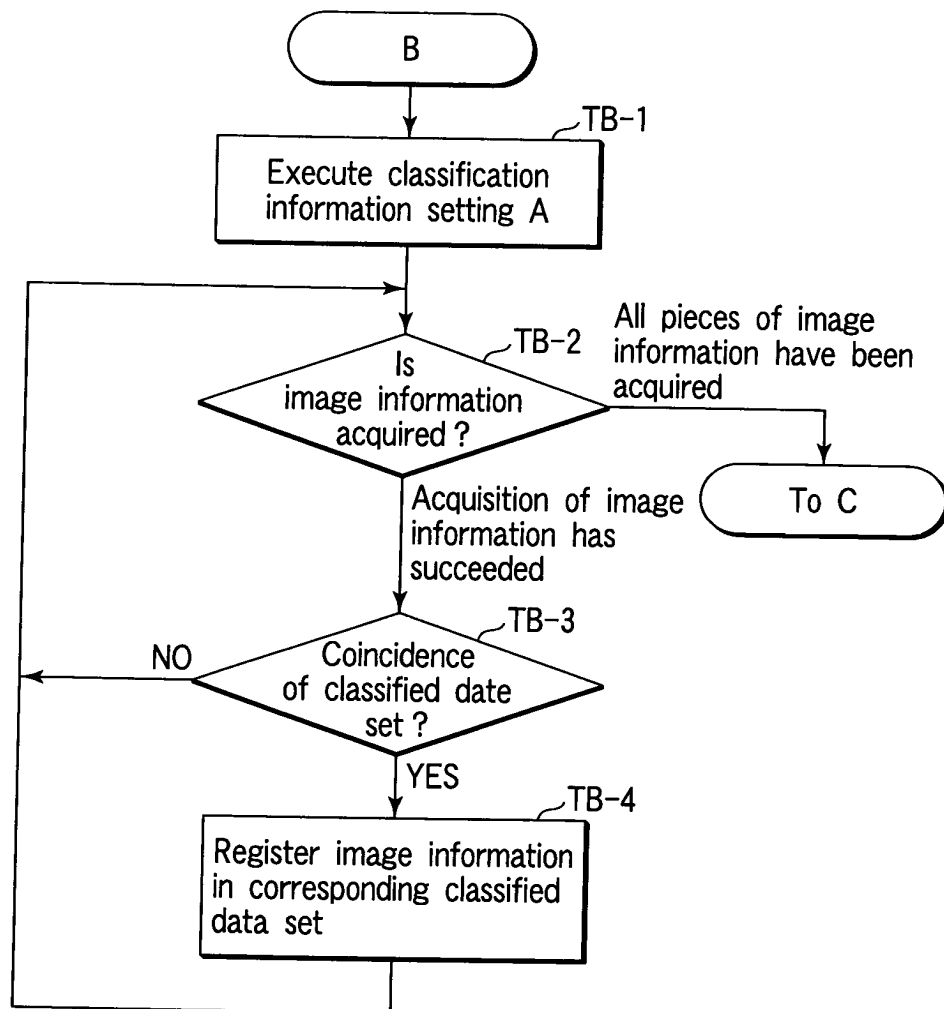


FIG. 43

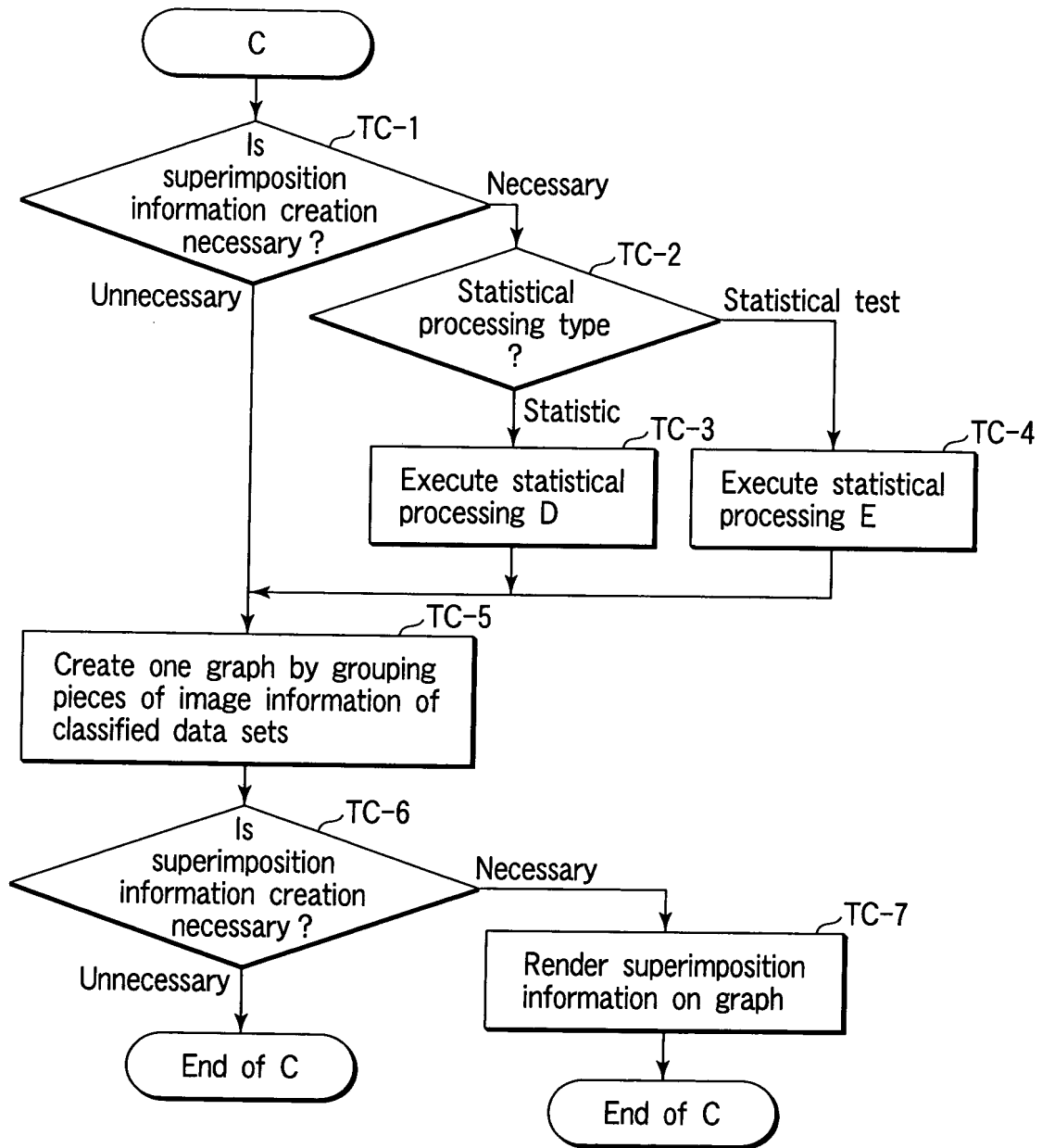


FIG. 44

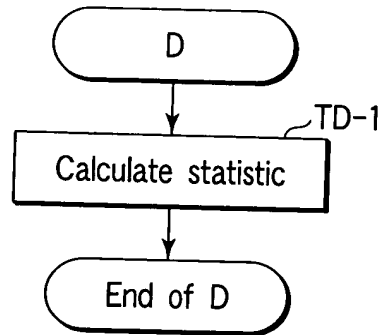


FIG. 45

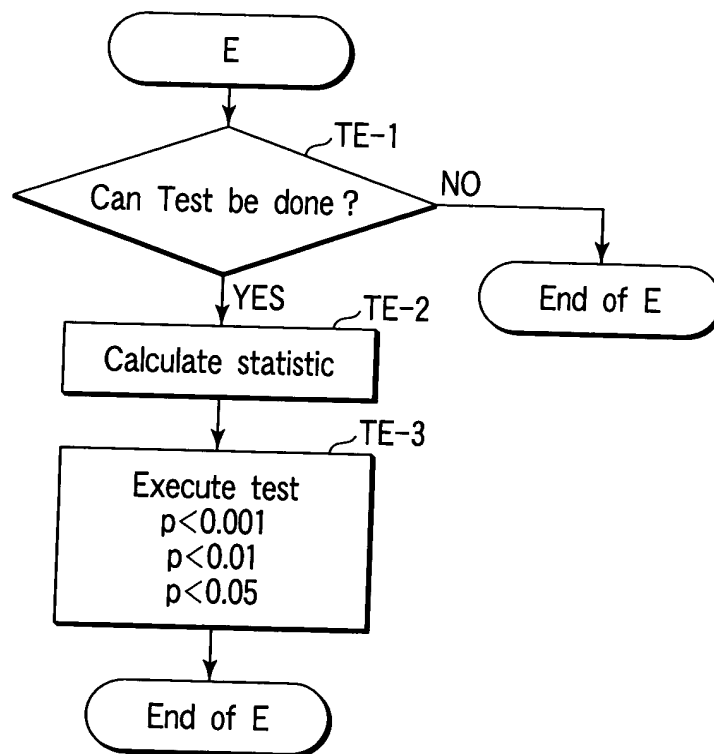


FIG. 46

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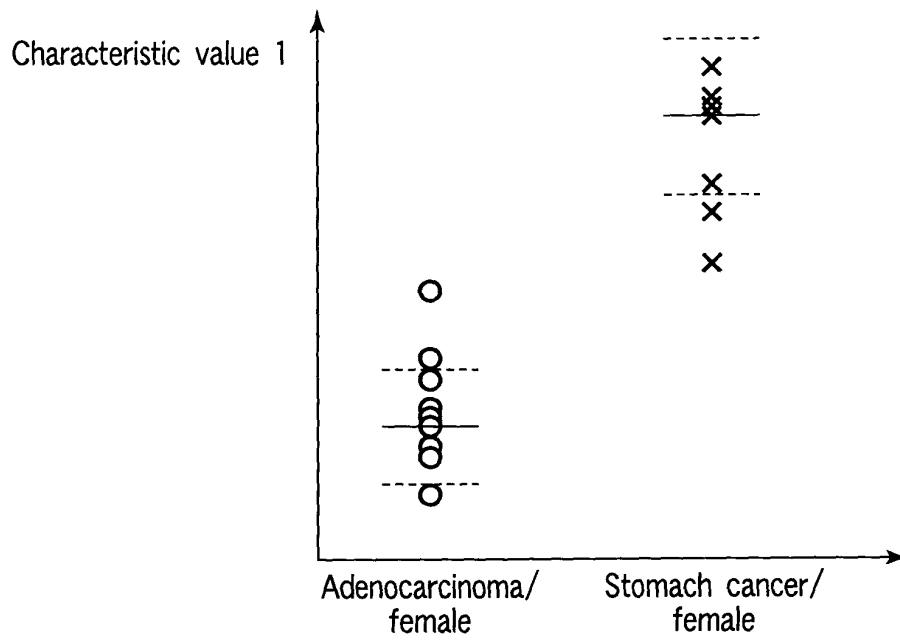


FIG. 47

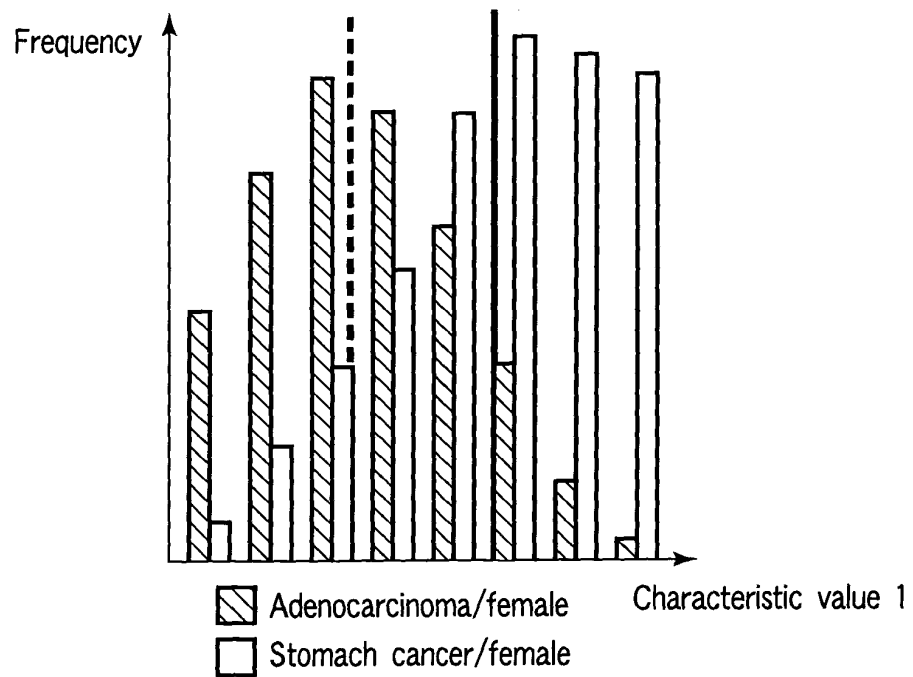


FIG. 48

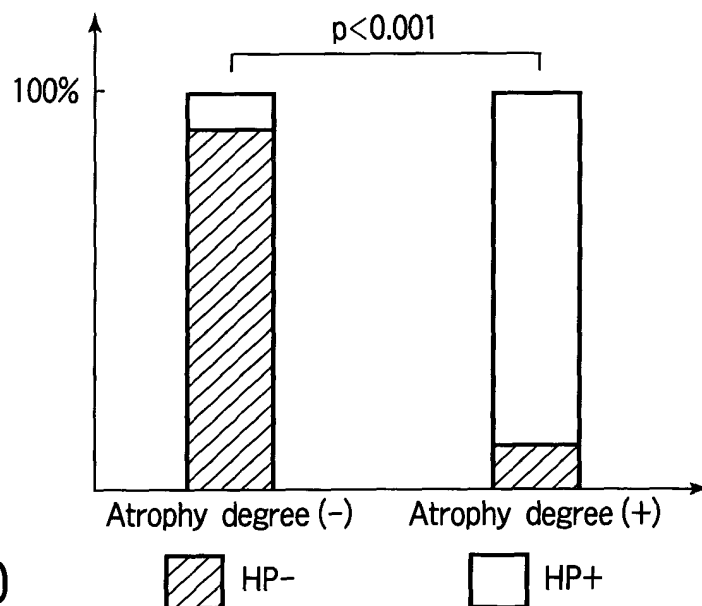
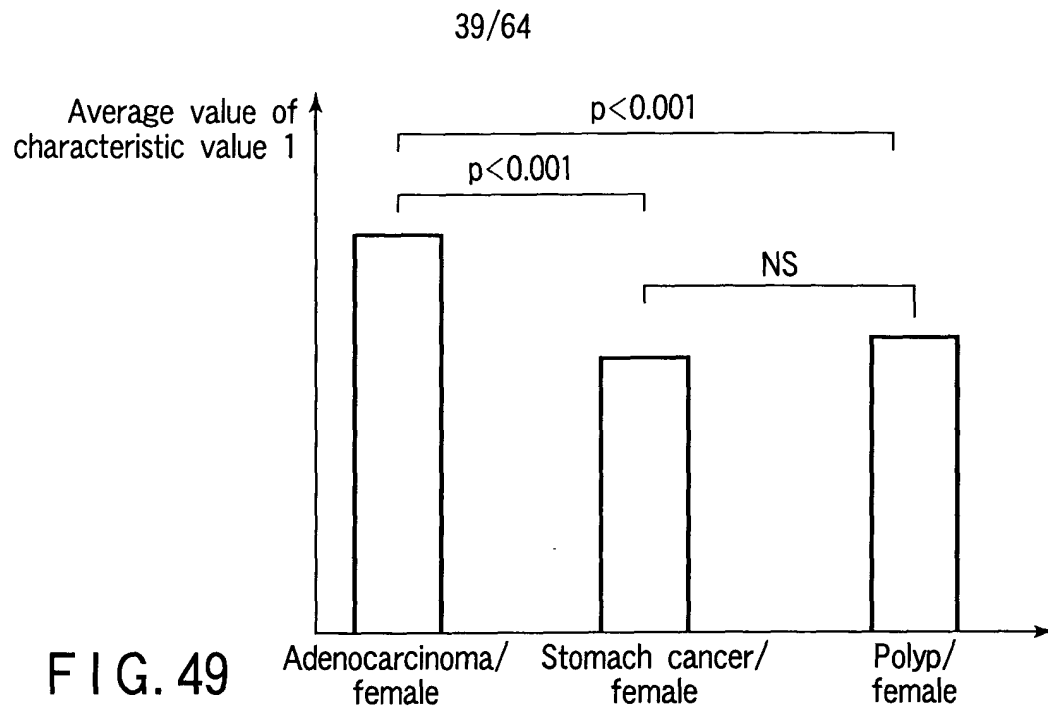


FIG. 51

Statistical information		
	Adenocarcinoma	Stomach cancer
Total	32	22
Patient age	50±15	70±5
Characteristic value 1	0.4±0.05	0.7±0.13
Characteristic value 3	1.5±0.08	1.7±0.01

Graph creation

Graph type

Histogram

One-dimensional scatter diagram

Two-dimensional scatter diagram

Average value bar graph

Case count bar graph

Data value 1

Patient age

Characteristic value 1

Characteristic value 2

Characteristic value 3

Characteristic value 4

Data value 2

Patient age

Characteristic value 1

Characteristic value 2

Characteristic value 3

Characteristic value 4

Classificatio item

Category classification

Diagnosis name

Examination region

Patient sex

Findings

Information to be superimposed

Average value

Standard deviation

Standard error

Intermediate value

Mode value

t test

χ^2 test

Classified data set

Adenocarcinoma/male

Adenocarcinoma/female

Stomach cancer/male

Stomach cancer/female

Polyp/male

Polyp/female

Ulcer/male

Ulcer/female

Lymphoma/male

Lymphoma/female

Erosion/male

Erosion/female

Execute

Cancel

165

☒ Creates a graph according to classification combination

FIG. 52

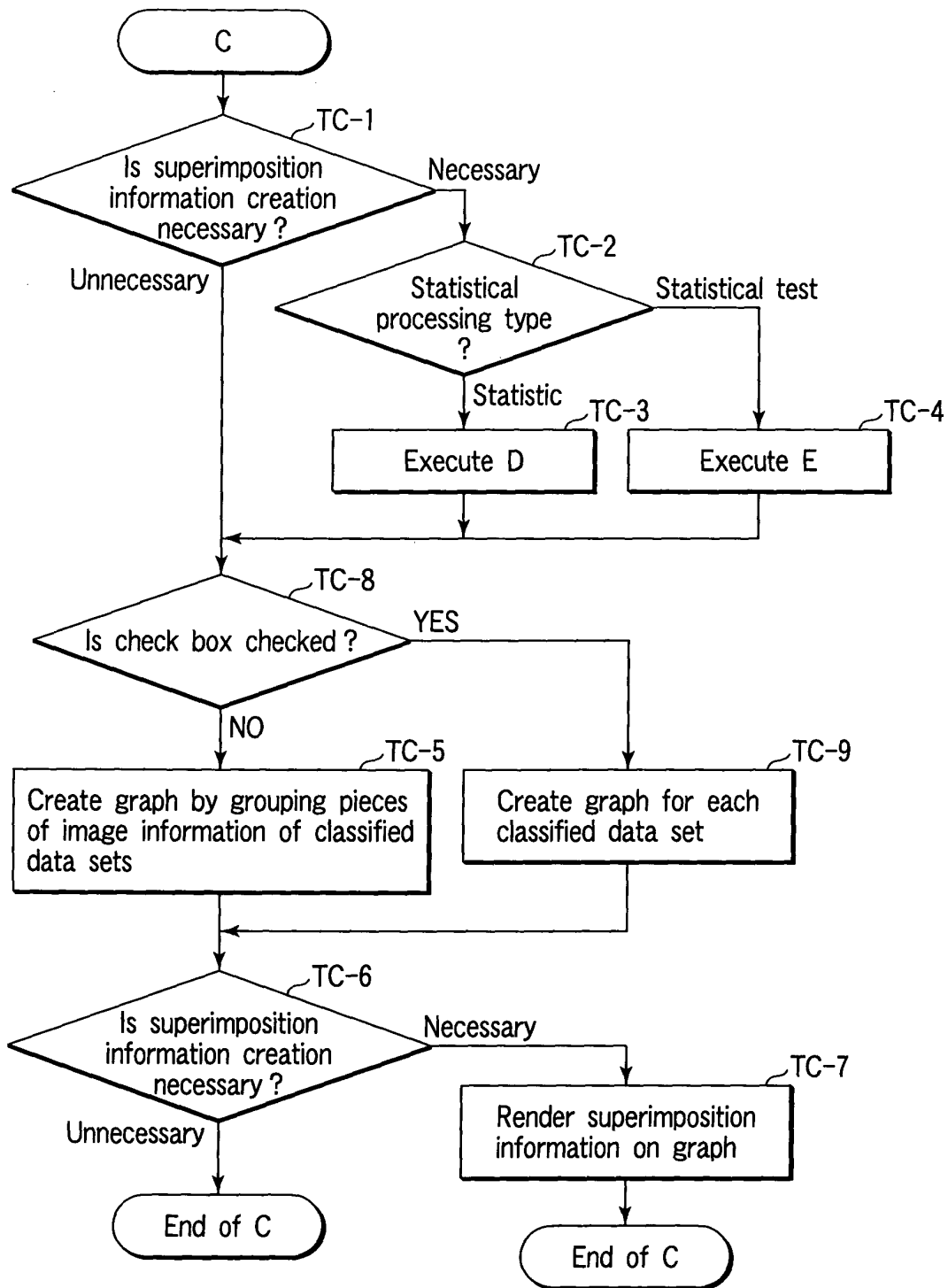


FIG. 53

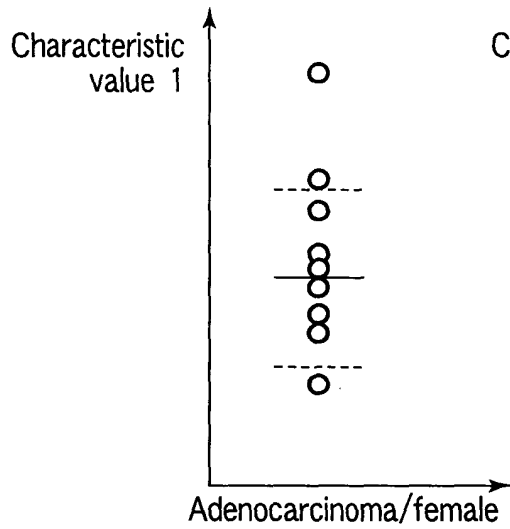


FIG. 54A

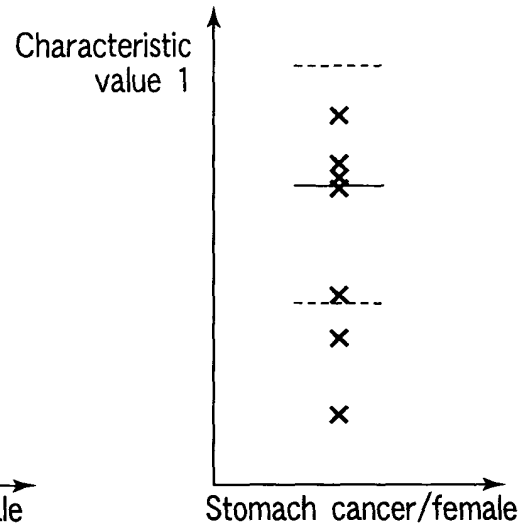


FIG. 54B

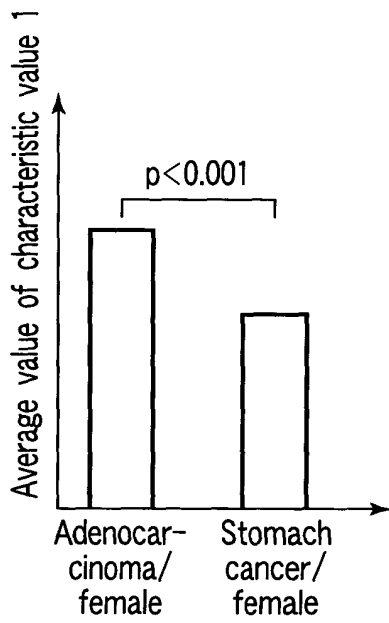


FIG. 55A

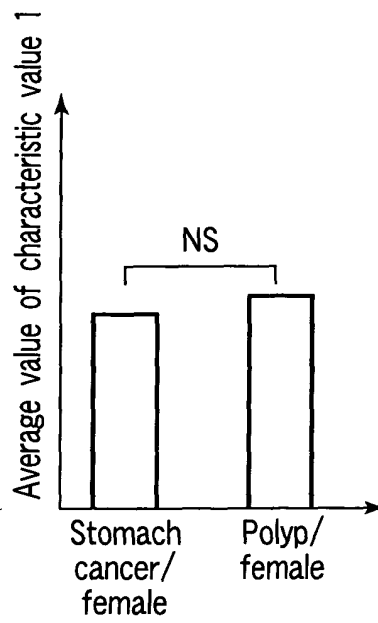


FIG. 55B

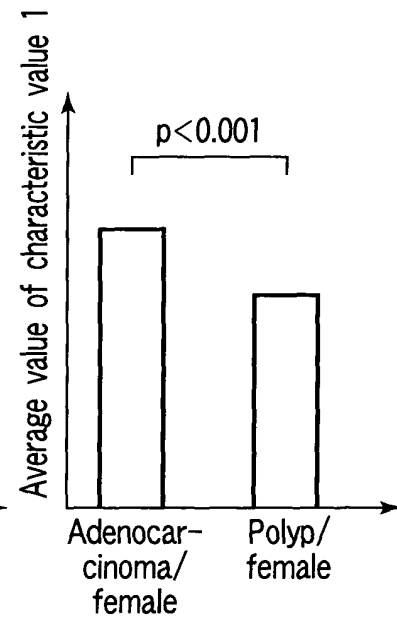


FIG. 55C

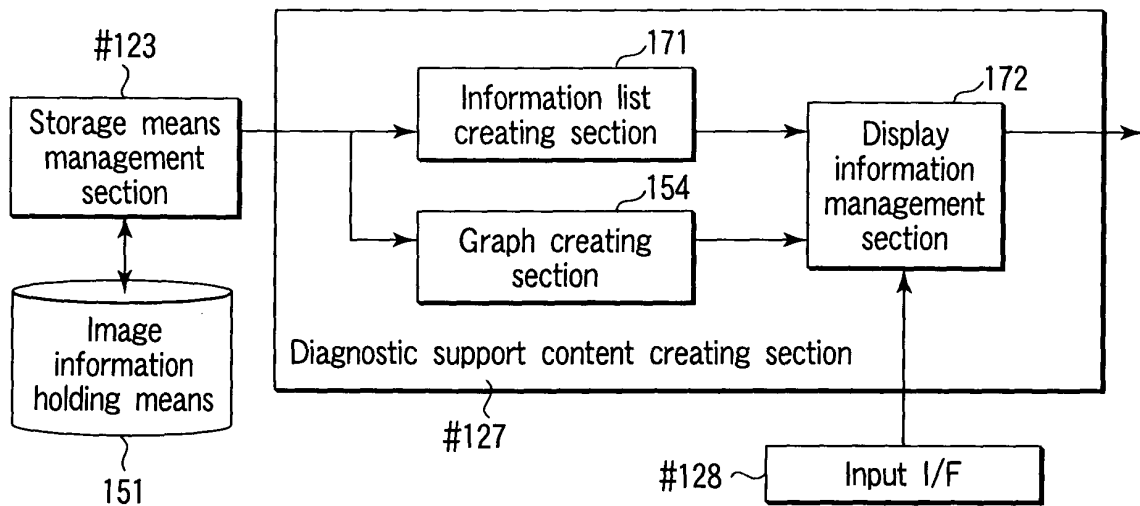


FIG. 56

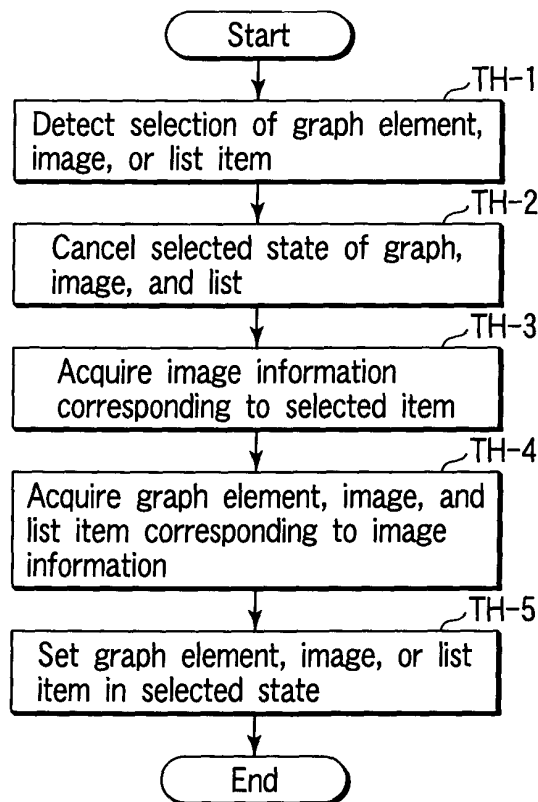


FIG. 57

173

Image information list

174

175

Image ID	Patient ID	Patient name	Examination date
1	111	Tanaka	2000.05.27
2	222	Yamasaki	2000.01.01
3	333	Imaizumi	2000.04.02
4	444	Nishimura	2000.06.05

Tanaka
111
M
00.05.27

Yamasaki
222

FIG. 58

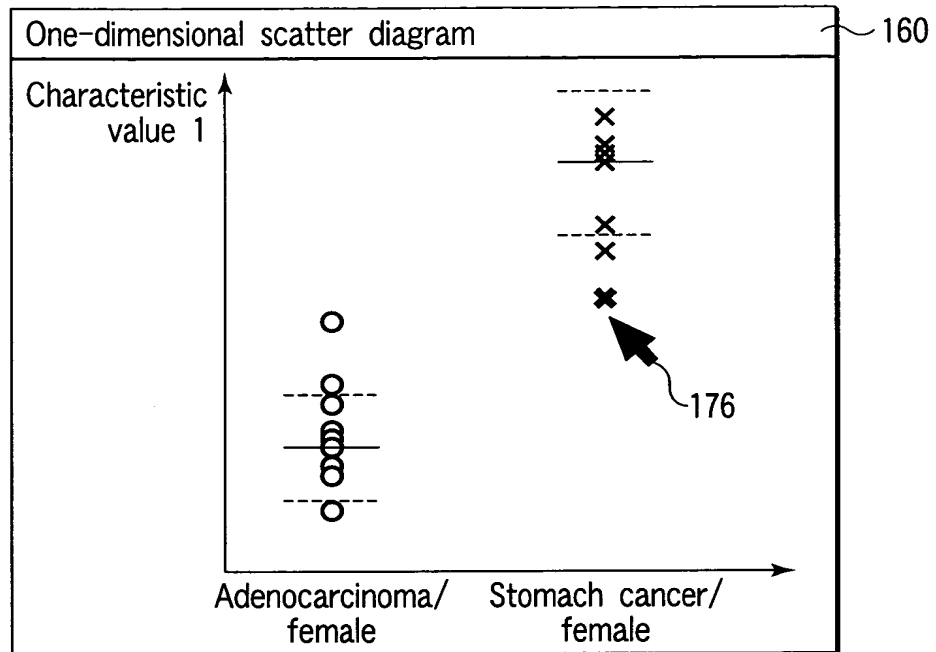


FIG. 59

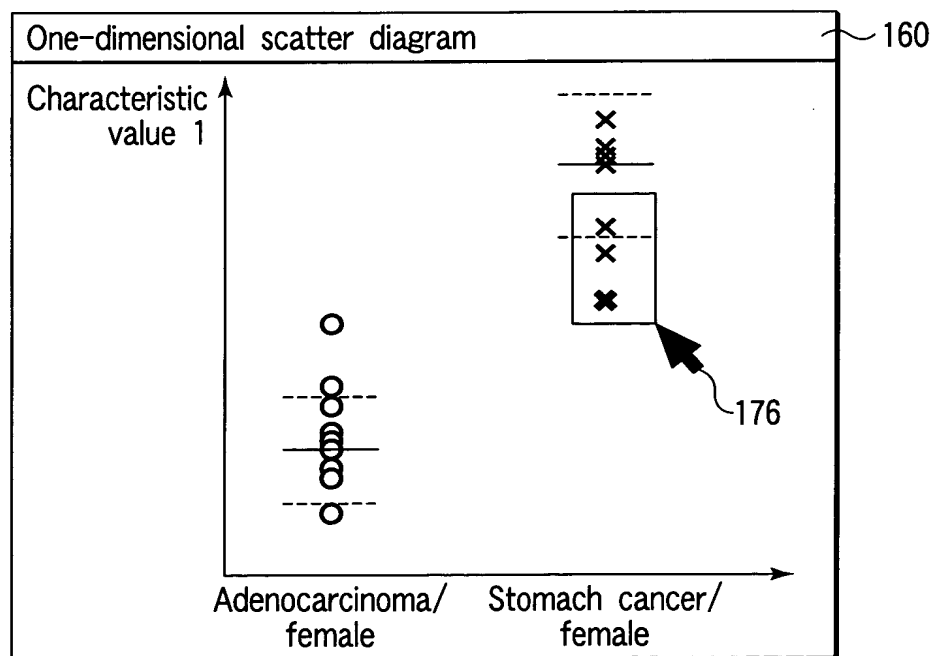


FIG. 60

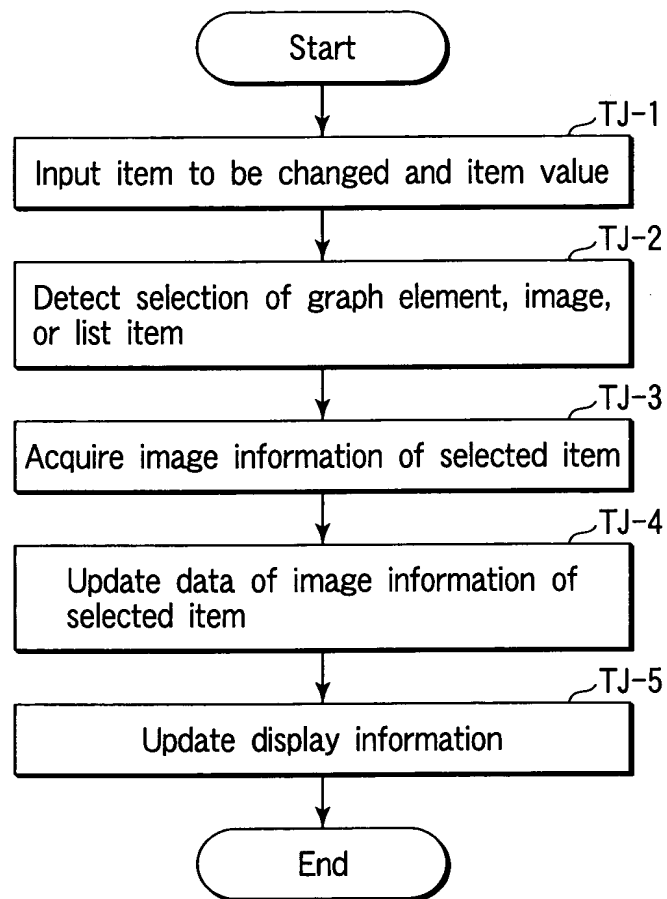


FIG. 61

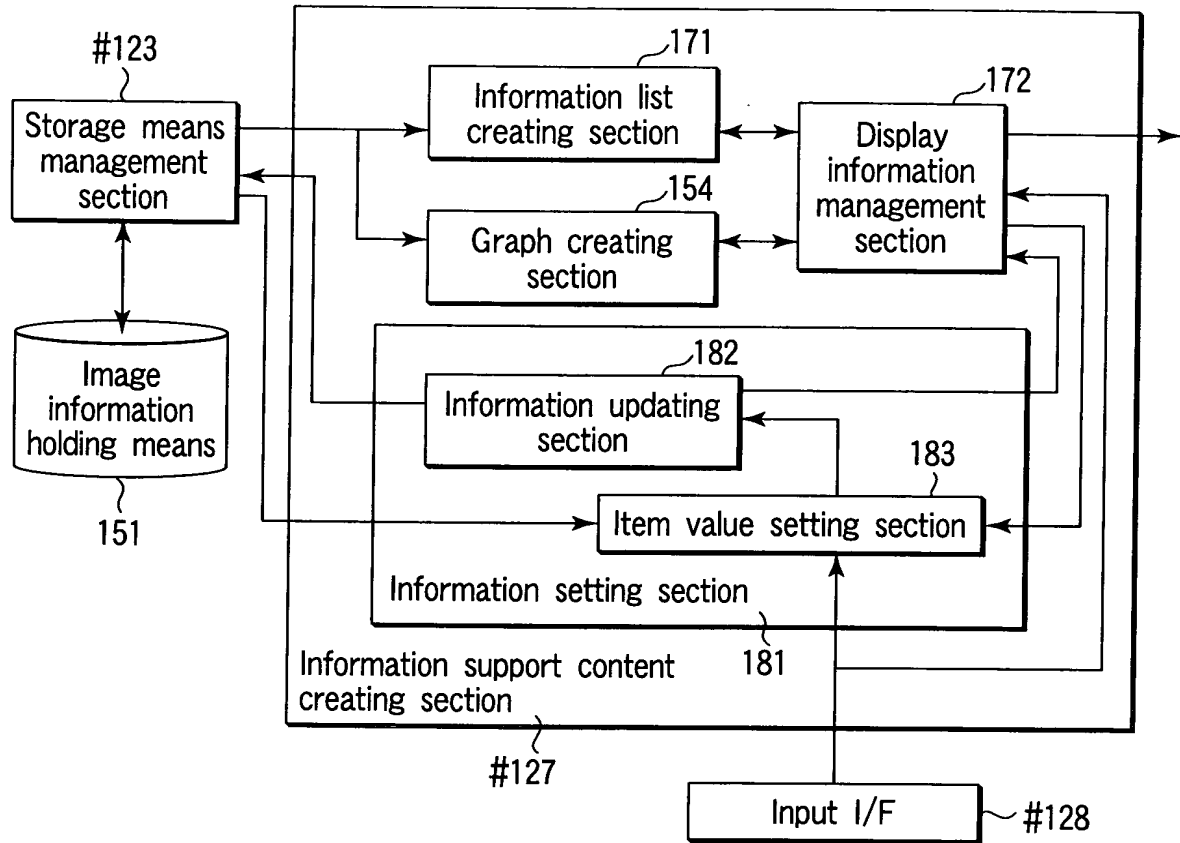


FIG. 62

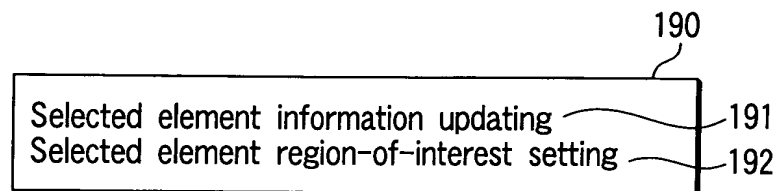


FIG. 63

Updating of information of selected element

Item to be changed

Category classification

Diagnosis name

Examination region

Patient sex

Graph creation attribute

185

Used for graph creation

Not used for graph creation

186

Tanaka

111

M

00.05.27

187

Update

188

FIG. 64

Updating of information of selected element		184
Patient name	Tanaka	220
Examination date	2001.02.10	221
Examination region	Stomach	222
Occupying region	Cardia	223
Diagnosis name		224
231 [Fine classification 1]		225
232 [Fine classification 2]		226
233 [Fine classification 3]		227
234 [Fine classification 4]		228
Update		229

FIG. 65

Updating of information of selected element		184
Patient name	Tanaka	220
Examination date	2001.02.10	221
Examination region	Stomach	222
Occupying region	Cardia	223
Diagnosis name		224
231 [Fine classification 1]	Ulcer	225
232 [Fine classification 2]	Gastritis	226
233 [Fine classification 3]	Polyp	227
234 [Fine classification 4]	Erosion	228
Update		229

230

FIG. 66

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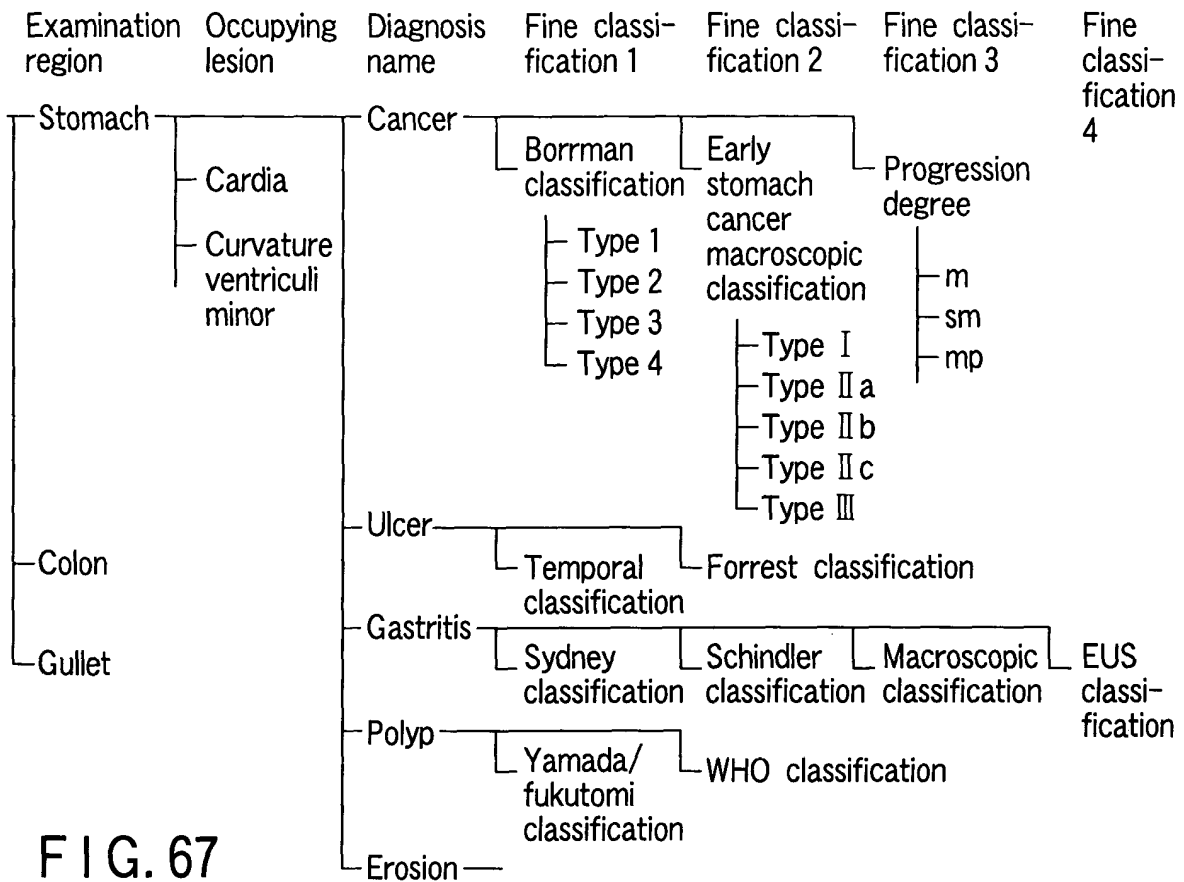


FIG. 67

Updating of information of selected element			184
Patient name	Tanaka		220
Examination date	2001.02.10		221
Examination region	Stomach	▽	222
Occupying region	Cardia	▽	223
Diagnosis name	Cancer	▽	224
231 [Borrmann classification]		▽	225
232 [Macroscopic classification]		▽	226
233 [Progression degree]		▽	227
234 [Fine classification 4]		▽	228
Update			229

FIG. 68

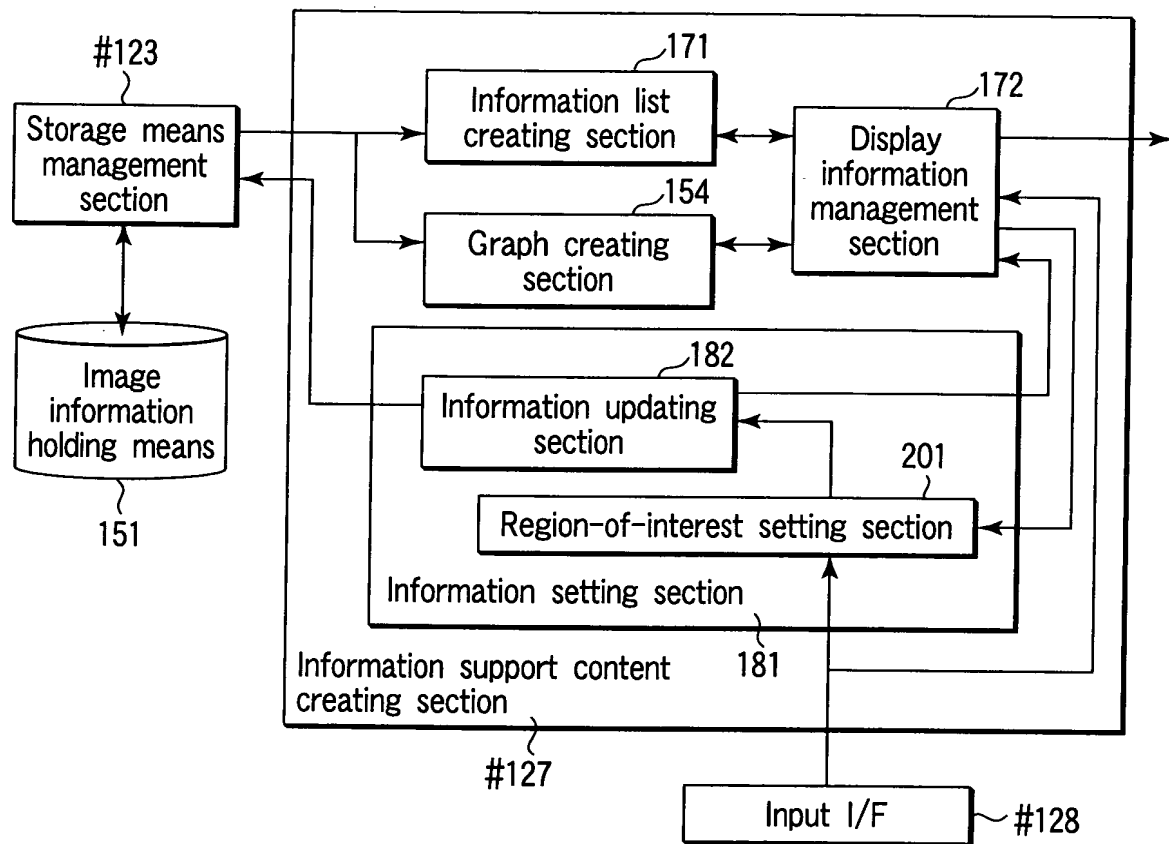


FIG. 69

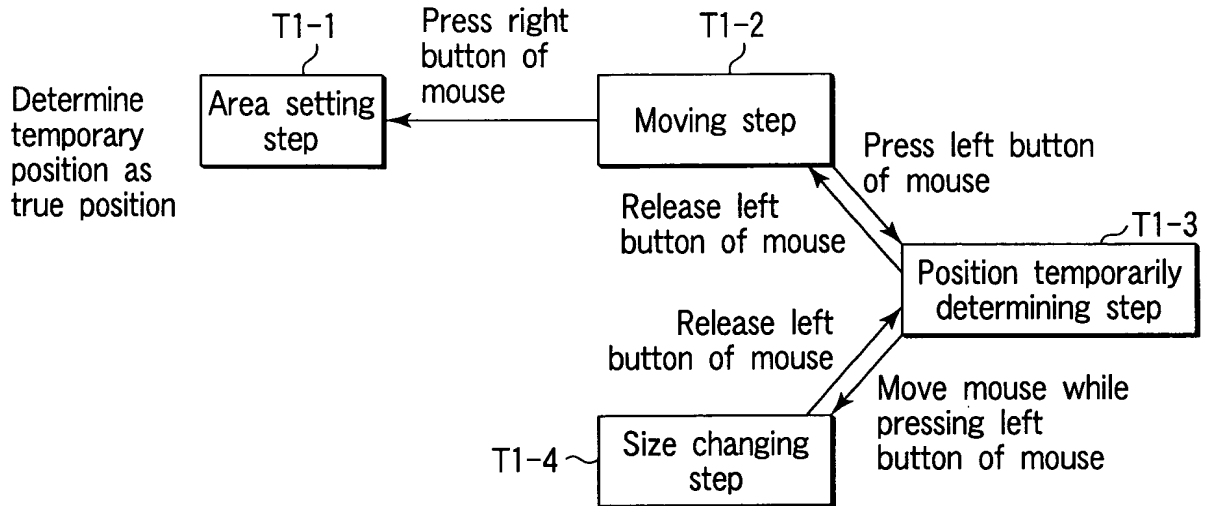


FIG. 70

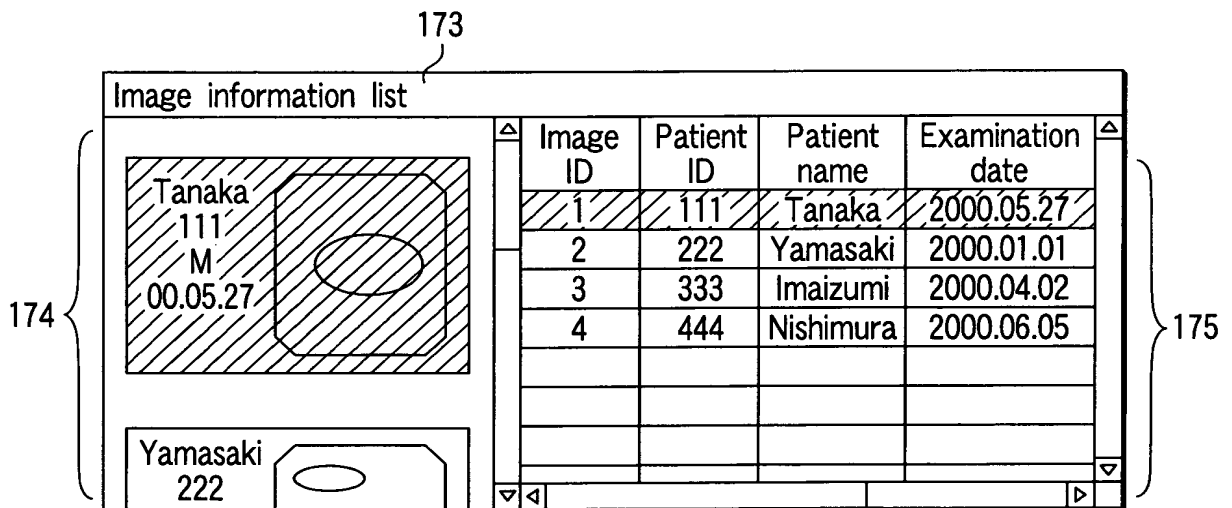
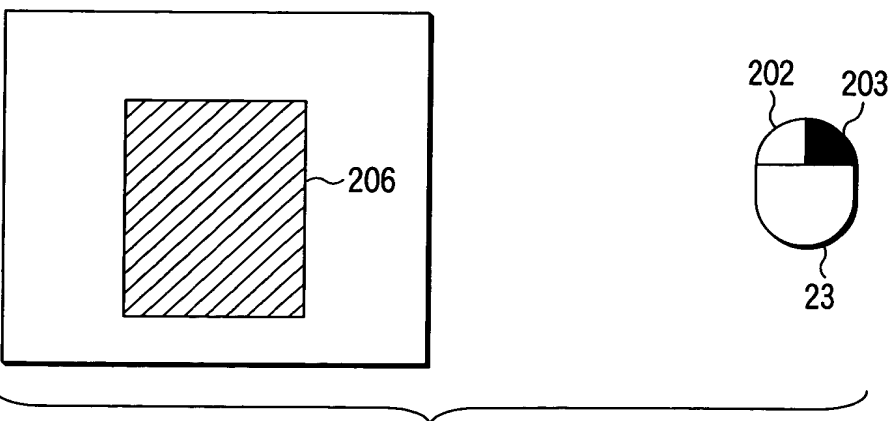
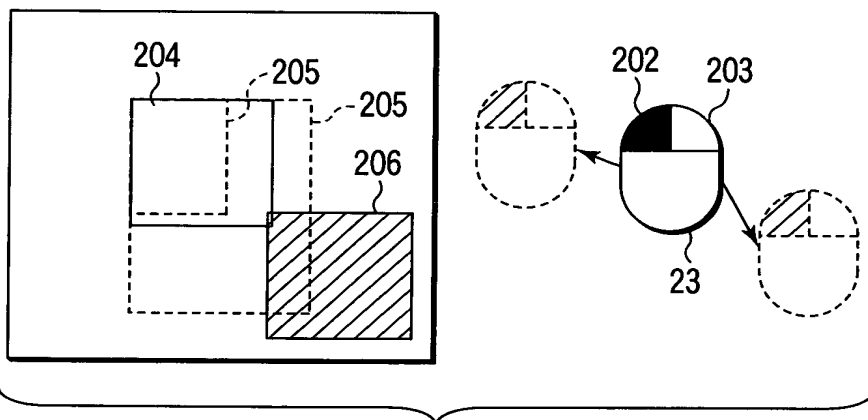
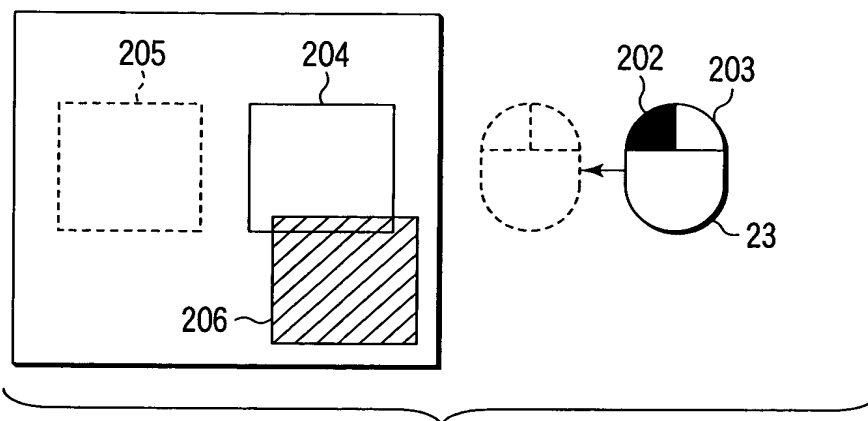


FIG. 71



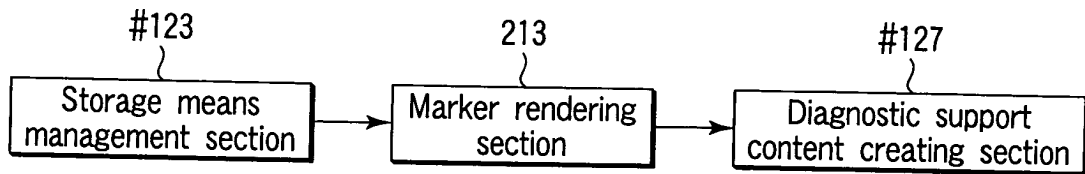


FIG. 73

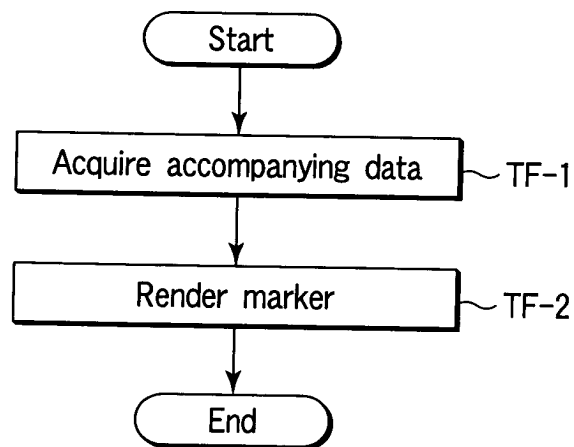


FIG. 74

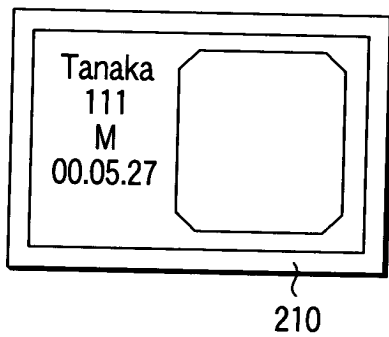


FIG. 75A

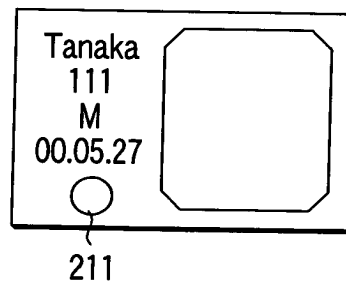


FIG. 75B

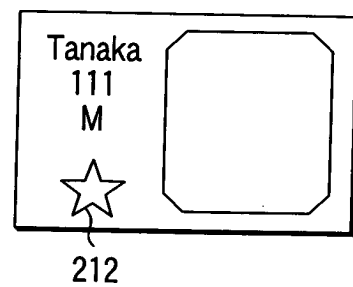


FIG. 75C

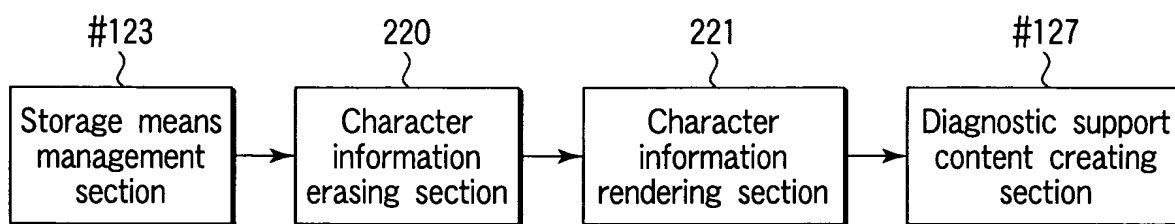


FIG. 76

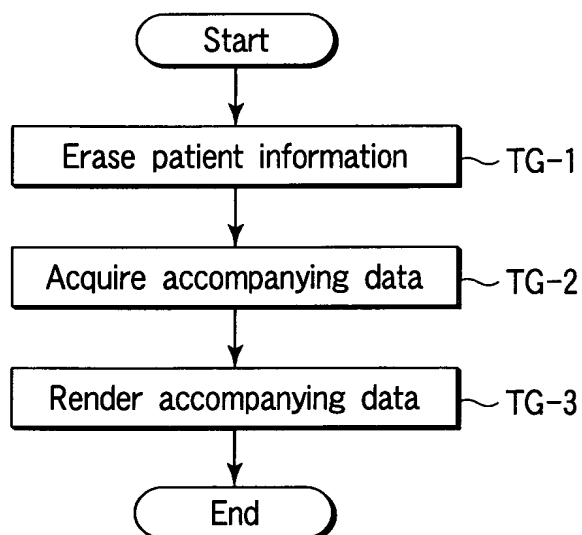


FIG. 77

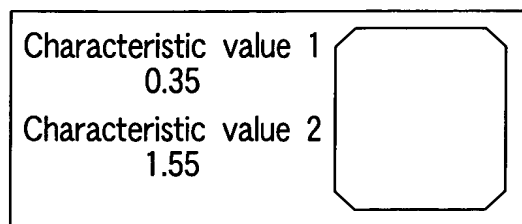


FIG. 78

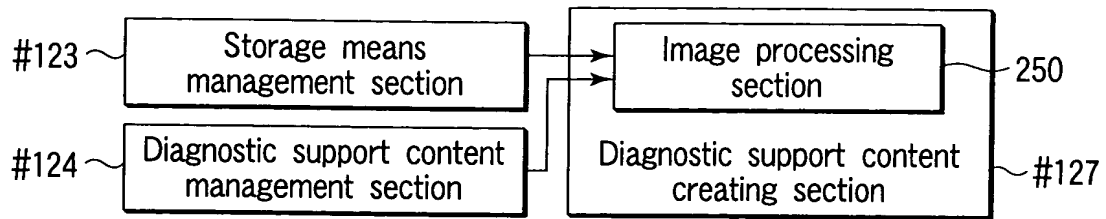


FIG. 79

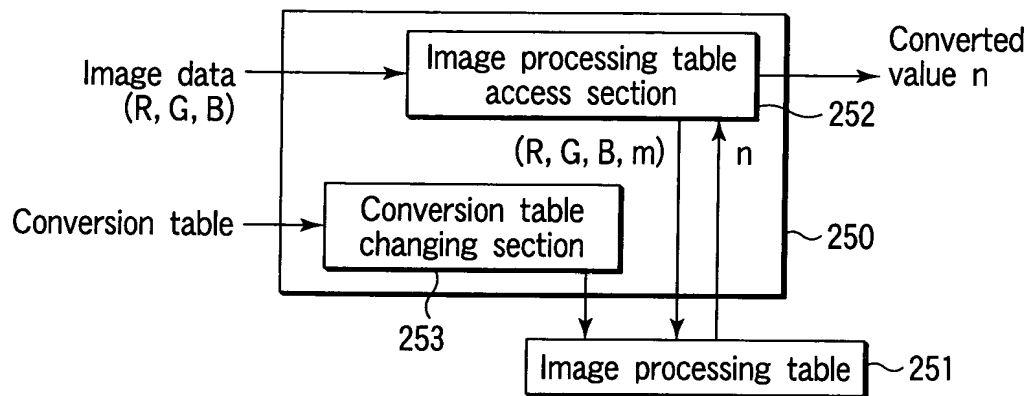


FIG. 80

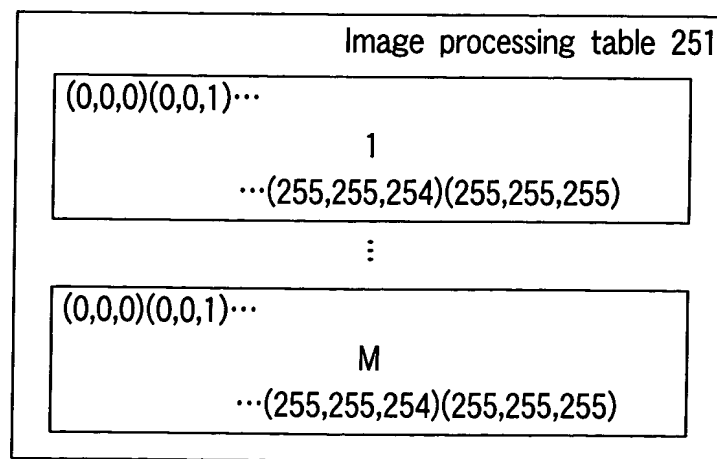


FIG. 81

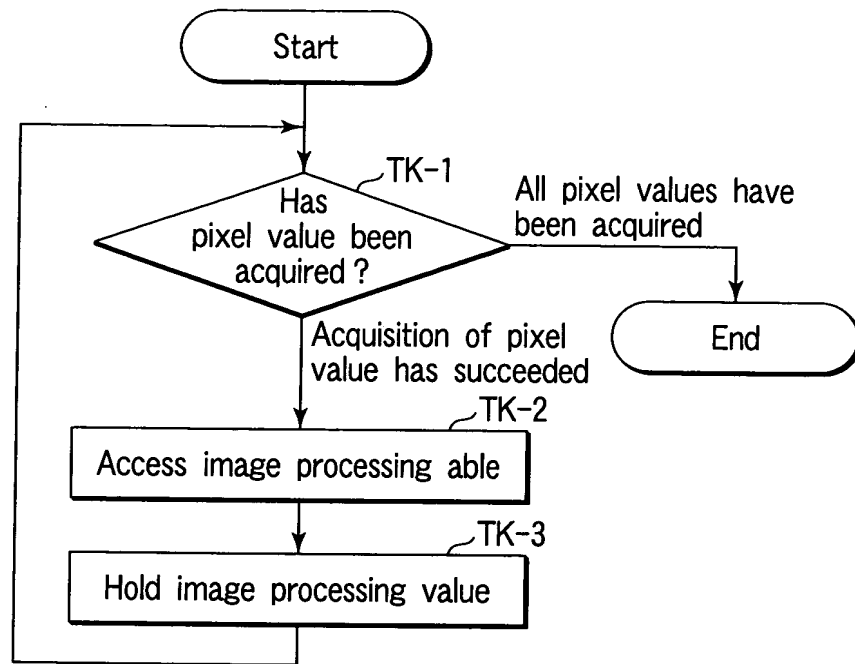


FIG. 82

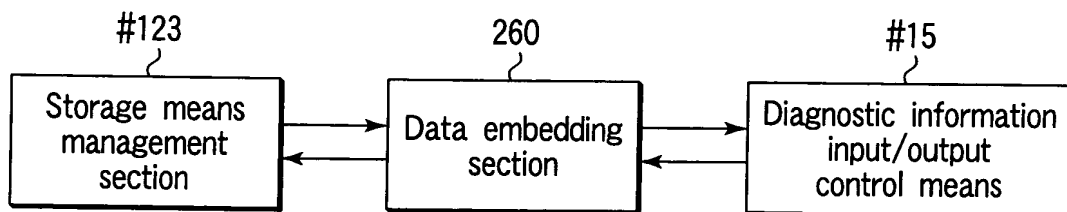


FIG. 83

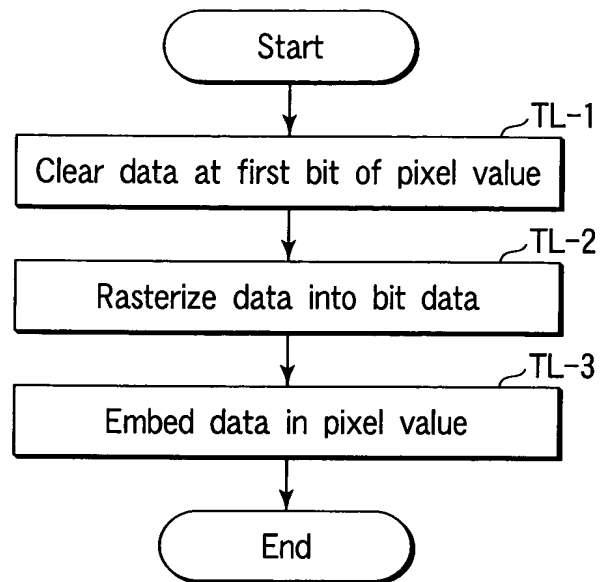


FIG. 84A

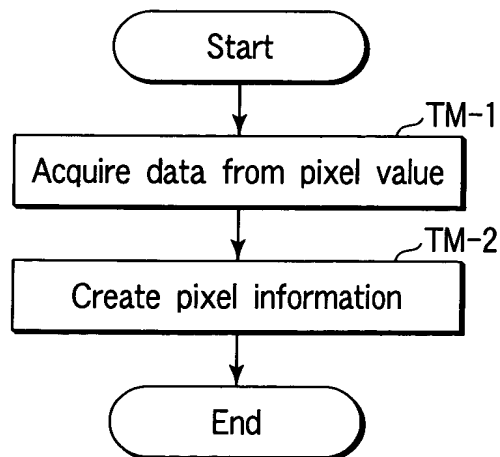


FIG. 84B

FIG. 85

(FF,A1,00)	(FA,A0,01)	
(FA,A1,03)	(FB,BF,03)	



(FE,A0,00)	(FA,A0,00)	
(FA,A0,03)	(FA,BE,02)	

Characteristic value of 60
→ binary number 00111100



(FE,A0,01)	(FB,A1,01)	
(FA,A0,03)	(FA,BF,02)	

(FE,A0,01)	(FB,A1,01)	
(FA,A0,03)	(FA,BE,02)	



FIG. 86

Binary number 00111100
→ Characteristic value of 60

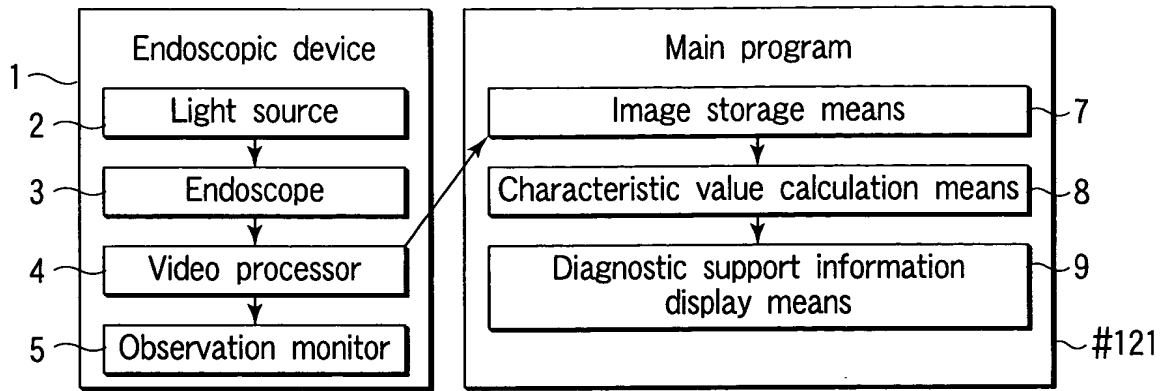


FIG. 87

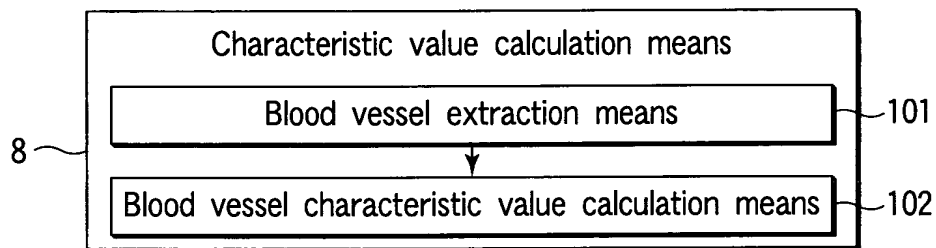


FIG. 88

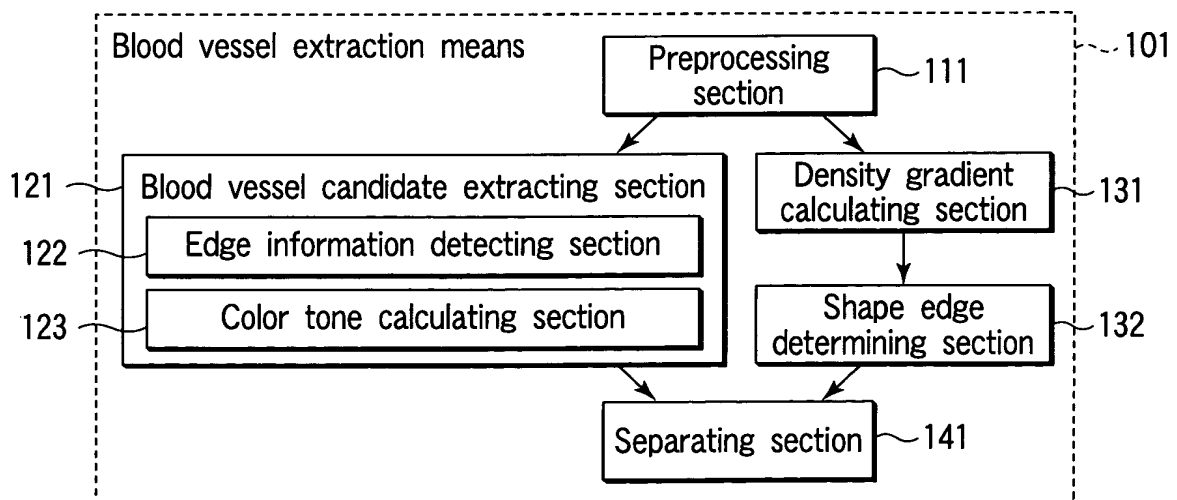


FIG. 89

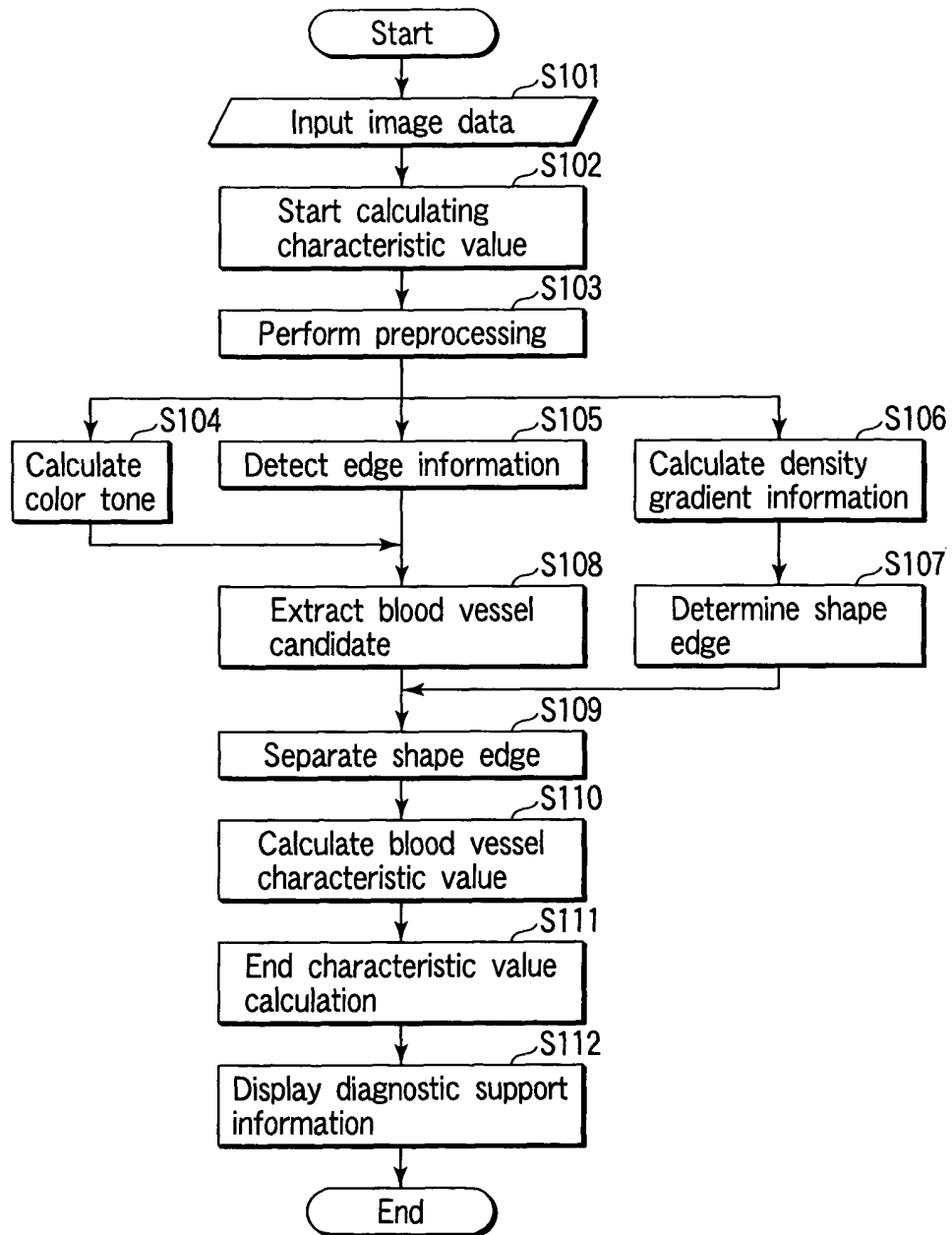


FIG. 90

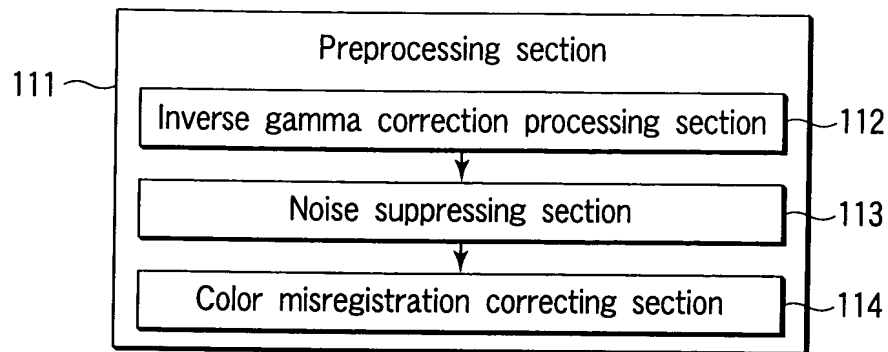


FIG. 91

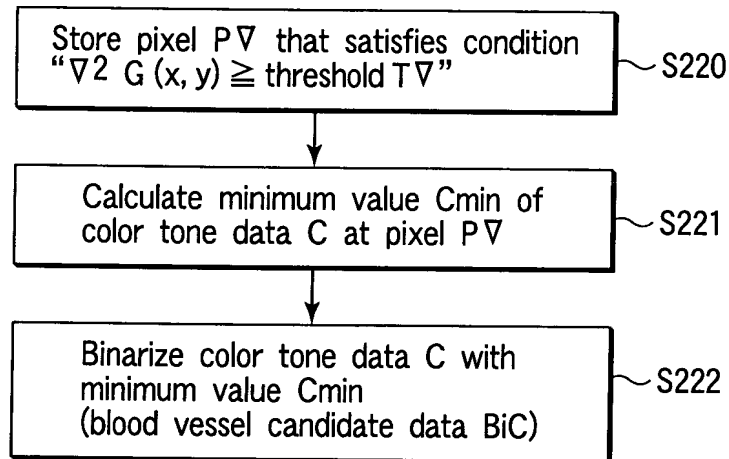


FIG. 92

0	1	0
1	-4	1
0	1	0

FIG. 93

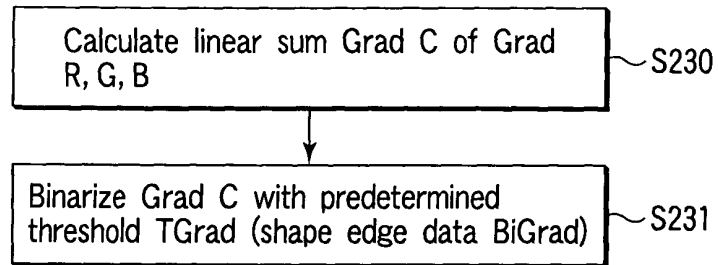


FIG. 94

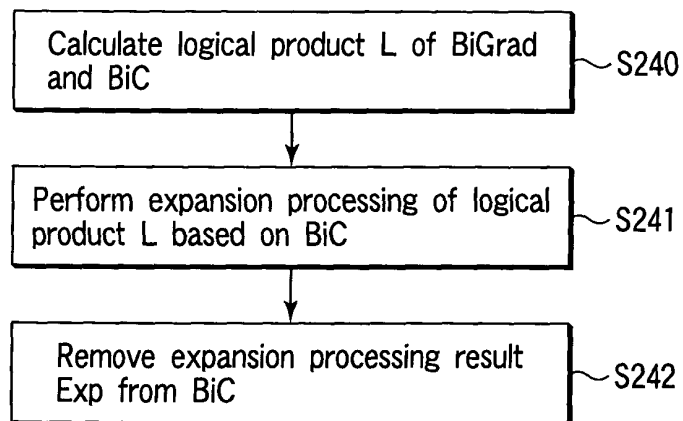


FIG. 95

